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COUNTY BOROUGH OF BRIGHTON.

Annual Report

ON THE

HEALTH,

Sanitary Condition, &c.,

OF THE

COUNTY BOROUGH OF BRIGHTON,

FOR THE YEAR 1904.

BY

ARTHUR NEWSHOLME, M.D., F.R.C.P.,

Medical Officer of Health.

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COUNTY BOROUGH OF BRIGHTON.

Sanitary Committee.

THE MAYOR (MR. ALDERMAN BLAKER),
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,, ,, EVANS,
,, ,, HOLLOWAY (Chairman).
,, ,, LINTOTT,
,, ,, McCLEAN,
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Staff of the Public Health Department.

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JAMES A. CUCKNEY ,, ,, ,, ,, ,,
(Superintendent of Abattoir).
ERNEST E. MILLS ,, ,, ,, ,, ,,
(Inspector under the Factory and Workshops Act and Shop Hours Act).
FREDERICK BRAYBON (Certif. San. Institute) ,, ,,
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THOS. SPRATT, Senior Clerk.
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CHARLES GREENFIELD, Junior Clerk and Messenger.

Matron of Sanatorium: MISS RATCLIFF.

House Physician & Deputy to Medical Officer of Health.

J. P. CANDLER, M.B., Camb., D.P.H., Oct., 1903-March, 1904.
L KINGSFORD, M.D., Edin., D.P.H., March-Dec., 1904.

Chief Inspector of Nuisances.

JAMES F. SKINNER (Certif. San. Institute).

Public Analyst: MEREDITH WYNTER BLYTH, B.Sc., F.I.C.

Medical Officer of Health: ARTHUR NEWSHOLME, M.D.

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INTRODUCTION.

Town Hall, Brighton,
February 28th, 1905.

To the Sanitary Committee of the Brighton Town Council.

Gentlemen,—

Each year fresh legislation and public requirements increase and extend the duties of the department of the work of the Town Council, for which I am officially responsible, and my annual statutory duty of reporting on the action taken during the past year to remedy conditions and circumstances inimical to the health of the community, and on the multifarious work which this involves, becomes increasingly complex.

The only plan calculated to secure practical results appears to be to concentrate attention each year on a few important problems, choosing different problems in successive years. This year I have dealt in my report with three such problems. The first of these is the serious loss of life from Infantile Diarrhœa, in connection with which important conclusions bearing on methods of feeding babies are stated on page 49.

The second is the heavy mortality from Measles, particularly among children attending the babies classes of our Infant Schools. I believe that the action already taken on this part of my report by the Education Committee will greatly help in reducing this preventible loss of life (page 38).

The third is the subject of Tuberculosis and particularly the Sanatorium training and treatment of patients suffering from this lingering and incapacitating disease. This I regard as the most important of all the health subjects concerning which the Town Council is in a responsible position, and over which it can exercise a wide and increasingly efficient control. In the choice of measures for the Public Health, humanity and business considerations alike demand that we should spend the greatest effort and the largest amount of money on the preventible diseases which most severely drain the health and the finances of the community. There is no disease equal to Tuberculosis in this respect. This is clearly shewn in the following table in which the relative magnitude of the causes of death operating in Brighton during 1904, for the 50 working years of life, 15-65, is shewn.

Total deaths in Brighton at ages 15-65 in 1904 :—

From all causes	733

Tuberculosis	179
Cancer	98
Heart Disease	38
Accident and Suicide	35
Pneumonia	28
Bronchitis	22
Typhoid Fever	7
Puerperal Fever and Diarrhœa	2 each
Scarlet Fever, Diphtheria and Erysipelas ...	1 each
Whooping Cough, Measles and Small Pox ...	none

We are as yet ignorant of the cause of cancer, and cannot therefore combat it. It is from the standpoint of the welfare of the community, less serious than tuberculosis, because it occurs at a higher age. In tuberculosis, 89 per cent. of the mortality at ages 15-65 is under 55 years of age, in cancer only 49 per cent. of the total mortality at ages 15-65 occurs under 55 years of age. Thus, although cancer is a frequent cause of death at ages before old age would cause a natural death, and although it removes those whose experience and knowledge is exceptionally valuable to the community, it does not in the majority of instances kill those on whom young families are still dependent. Until the investigations respecting cancer now being vigorously pursued are successful, our preventive measures may well be concentrated on the greater evil of tuberculosis. Much has already been done in Brighton. We have a voluntary system of notification of cases of consumption, which ensures the notification of a large proportion of the total local cases, and about 120 cases are each year trained at the Borough Sanatorium in the management of their illness especially in regard to spitting. This was done at a nett expense on the basis explained in my report to the General Purposes Committee of not more than £500, or if the consumptives be charged for their proportionate share of all current expenses at a cost of about £960 during last year. The total cost of the maintenance of the Sanatorium last year, excluding £1,781 for interest on loans, was £5,513 (see p. 70). It cannot be said that we are as yet doing as much for consumptives, in proportion to the needs of the case and the probabilities of success, as we are doing for the acute infectious diseases. This can be seen by a glance at the preceding table and at Table V., on page 102. I hope that during the present year the Council will decide to enlarge our present accommodation for consumptive patients, by allocating for some years to come the interest of a portion of the Hedgecock Bequest to this purpose.

POVERTY AND PUBLIC HEALTH.

Behind our problems of public health is the perennial problem of poverty. The social aspect of hygiene is happily becoming better realised, and there is ground for hope that the study of this subject, in which so many are engaged, may have practical issue in measures for improving the condition of the poor.

Poverty is, of course, a symptom of a disease, and not as a rule itself a disease. We need in every case of poverty, and still more in the cases of destitution for which official relief is required, to discover the cause or causes of this symptom, if a rational remedy for each case is to be applied. I do not pretend to analyse the relative frequency of the various causes of poverty, or to more than touch on the intricate social questions involved in their consideration. And if I specially mention one or two causes, it is not because I forget that other deeper causes exist which are foreign to the present limited discussion. Apart, however, from fundamental changes in social conditions, and leaving out of consideration poverty in the old, for which special provision is needed, it is obvious that one of the main causes of poverty is the amount of money which is spent on alcoholic drinks. It appears to be quite certain that in the aggregate about one-fourth of the total earnings of wage-earning families goes in alcoholic drinks, a not only useless expenditure, but in the vast majority of instances an expenditure which is injurious to health and efficiency.* In Brighton alone on the assumption that its entire population consumes the same average amount as the rest of the community, about £516,000 was spent in 1903 on alcoholic drinks. Even if we assume that half of this was legitimate expenditure for residents and visitors, the wasted half is nearly equal to the total amount £281,619 which was paid in rates in 1903, and would, if diverted in that direction, pay 6s. 4d. in the £ of the local rates. In actual fact it would pay much more than this; for a very large share of our paupers are such because of intemperance, our lunatic asylums are crowded largely on this account, and the work of the police is very largely concerned with the effects of intemperance.

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* It is not suggested that working men spend more than others on alcoholic liquors. But they can less easily afford an unnecessary and pernicious expenditure of money.

In the work of my own department, dirty houses and overcrowding occur more commonly among the intemperate than among the temperate poor. If the money spent on drink by the very poor could be diverted to rent and food, the amount of tubercular disease and of acute infectious diseases would be greatly reduced, and the necessity for sanitary inspections would decrease. On the other hand, the evil environment of the poor not unfrequently leads to intemperance, and thus cause and effect act and re-act.

The number of licensed houses in Brighton is excessive, and the temptations to drink are thus constantly present close to the houses of the poor. Nothwithstanding "church parlours" and similar efforts, there is still urgent need for club-rooms for working men, where there would be no temptation to drink. The provision of one of these in three or four of the poorest wards of the town, with opportunities for healthy amusement, including concerts, would do much to diminish intemperance. Early closing and late opening of public houses would greatly help.

Unskilled labour suffers more than any other when the pinch of deficient work arises. This has been so to a great extent during the present winter. And here I wish to draw attention to the good work done by the various voluntary organisations for relief which have been actively engaged in relieving distress, including the Soup Fund, the Police Clothing Fund and the Free Breakfast Fund. I am in a position so summarise the work up to the middle of February of the last named fund, through the courtesy of Mr. Lindsey, the Hon. Secretary. During part of the winter over 800 children at a time have been given a breakfast of bread and milk on five mornings weekly at different elementary schools in the town. Altogether about 33,000 breakfasts have been given at a cost of 6¼d. for five meals. The children were selected in the first instance by the teachers, and a week's breakfasts were in some instances given on their recommendation, pending further investigation. The Committee decided, however, that the breakfasts should only be continued when the results of further inquiries were satisfactory. A card of somewhat searching inquiries was drawn up, and each parent was visited at home by voluntary visitors, and information as exact as possible was obtained. The results of 835 investigations are roughly summarised below:—

	Children of		Per cent.	
Cases recommended.	Widows or deserted wives	104	13	
	Parents in receipt of parish relief	16	2	
	Father out of work and no subsidiary earnings ..	125	15	
	Father out of work, insufficient subsidiary earnings	126	15	
	Total earnings of family insufficient owing to irregular work or low wages	175	21	
Cases not recommended.	Parents did not need the breakfasts for their children	182	22	34
	Parents declined the breakfasts for their children	107	12	

It is, in my opinion, of the utmost importance in local administration that whenever extra-parochial relief is required, information should be available respecting families who are on the verge of poverty. The information respecting the above cases has been carefully preserved and will be kept for future reference and guidance. Many of the cases were very worthy in every respect, and deserved every possible help. In some other instances, more numerous than could be statistically stated, intemperance and improvidence of the parents were largely responsible for present distress. In a certain number of instances there was strong reason for thinking that the help given to the children enabled parents to continue tippling. These cases are the most difficult of all to deal with. Some of them were handed on to the Chief Constable and to the S.P.C.C., but in no instance was the evidence of neglect strong enough to justify legal proceedings. Personally I hold very strongly the view that no adult in receipt of parochial or any other form of relief should be permitted to buy any form of intoxicating liquor, except on a medical order; but how to enforce this is the practical difficulty.

The table of contents on page 3 will enable easy reference to be made to the diffierent subjects dealt with in this report.

I am, Gentlemen,
Your obedient Servant,

Arthur Newsholme, M.D.

Medical Officer of Health.

A.—VITAL STATISTICS.

POPULATION.

The estimated population of the County Borough at the middle of 1904 was 126,286.

The Borough Surveyor reports that 538 new dwelling-houses were passed by the Town Council during 1904, as compared with 725 in 1903 and 551 in 1902. These were situate in the following wards: Preston 185, Preston Park 168, Lewes Road 119, Kemp Town 41, Queen's Park 19, West 4, Montpelier Ward 2. The population enumerated at the census was 123,478, and the number of inhabited houses was then 21,659, or 5·7 persons per house. Assuming that the additional houses are occupied by additional inhabitants on the same basis as at the census, the population for 1904 would be 133,818, but this is probably an over estimate.

BIRTHS.

The total number of births registered in the Borough in the 52 weeks ending December 31st, 1904, was 2,963—1,488 of boys and 1,475 of girls. This is equivalent to a birth-rate of 23·5 per 1,000 inhabitants. The average birth-rate of the seventy-six great English towns was 29·1, that of 142 smaller towns averaging 27·5 per 1,000.

Of the births, 174 were of illegitimate children, forming 5·9 per cent. of the total births. 67 births occurred in the Workhouse, of which 50 were of illegitimate children.

The birth-rate has steadily declined for many years. In 1881 it it was 30·6 per 1,000, in 1891 it was 26·2, in 1904 it had fallen to 23·5.

DEATHS.

Last year, 2,092 deaths from all causes were registered, which is equivalent to a death-rate of 16·6 per 1,000. The death-rate in the 76 great towns was 17·2.

A comparison with Brighton in former years is given in Table I., page 98. In Table II., the deaths in each Municipal Ward are given; and in Table III., the most important causes of death are given for each Ward.

The progress of the Brighton Death-rate for a series of years is indicated in the following tabular statement:—

	Death-rate per 1,000 population from all causes.
Ten years 1851-60 ...	... 25·0
1861-70 ...	... 25·6
1871-80 ...	... 20·5 (Preston incorporated in 1874)
1881-90 ...	... 18·5
1891-1900	... 17·6
1901-03 ...	... 15·5
1904 ...	... 16·6

The death-rate, although slightly higher than the average for the three preceding years, chiefly owing to measles, is very low as compared with earlier years.

DEATHS OF VISITORS.

Of the total 2163 deaths registered in Brighton during last year, 69 occurred in private houses, 62 in the County Hospital, and 13 in the Children's Hospital, 10 in the Workhouse, and 5 in the Home for Incurable Children, 1 in Hospital for Women, 1 in the Throat and Ear Hospital, 1 in the Female Convalescent Home, and 3 in the Sanatorium, were stated to be of visitors. The return of deaths among visitors is incomplete, many of the deaths occurring amongst visitors not being marked as such. Thus at a nursing-home in Sillwood Place, 7 deaths of visitors, and at a nursing-home in Upper Rock Gardens, 3 deaths of visitors, occurred.

During 1904, the deaths in the County Hospital comprised 107 deaths of inhabitants of Brighton, 41 of persons from rural districts of Sussex, &c., 15 from Hove, and 6 London, &c.

Of the 40 patients dying in the Children's Hospital during 1904, 4 came from Hove, 2 each from Steyning and Lindfield, and 1 each from Burgess Hill, Fishersgate, Newhaven, Seaford and London.

The Registrar-General excludes from the Brighton returns the deaths occurring in the Female Convalescent Home, Marine Parade, in the Home for Incurable Children, in the Sussex County Hospital, and in the Borough Sanatorium respectively, of persons who had not resided in the Borough prior to their admission into these respective institutions; and includes on the other hand the deaths of any Preston paupers which occur in the Steyning Union Workhouse. Sixty-two deaths of outsiders occurred, as shewn above, at the County Hospital, five in the Home for Incurable Children, three in the Sanatorium, and one in the

Female Convalescent Home. The result of the correction carried to this extent is to reduce the total deaths by 71. No correction in made for the Children's Hospital and other institutions in the town, and no account is taken of the much larger number of visitors who die in Brighton, but not in any public institution in it.

DEATHS IN PUBLIC INSTITUTIONS.

Of the total deaths, 261 occurred in the Workhouse, 169 in the Sussex County Hospital, 40 in the Children's Hospital, 29 in the Sanatorium, 6 in the Hospital for Women, 2 in the Throat and Ear Hospital, 7 in the Shoreham Workhouse, 1 in the French Convalescent Home, and 1 in the Female Convalescent Home.

INFANTILE MORTALITY.

The death of infants under one year were 133 per 1,000 births as compared with an average of 156 in the ten years 1894-1903. The returns under this heading are still unsatisfactory. We have no right to be contented until the infantile mortality is less than one-tenth of the births. Two chief causes of infantile mortality, measles and diarrhœa, are fully discussed in another part of this report.

Of the total 395 deaths under one year, 45 were of illegitimate children. Stated in terms of births this implies that the infantile mortality among illegitimate babies is 259, as compared with 125 per 1,000 among babies born in wedlock.

CHIEF CAUSES OF DEATHS.

The chief causes of death, and the number of deaths from each disease or group of diseases, are tabulated in Table V., page 102. This table gives the relative incidence of different direases, and the incidence of each disease in the two sexes and at different ages. In three cases the cause of death was not medically certified.

B.—NOTIFICATIONS AND OTHER RECORDS OF DISEASE AND THE ACTION TAKEN THEREON.

On March 1st, 1891, the Infectious Diseases (Notification) Act was adopted in Brighton.

The returns furnished to me under this Act shew that the number of *cases* of infectious diseases notified during 1904 was:—diphtheria, 263; scarlet fever, 172; enteric fever, 34; erysipelas, 95; puerperal fever, 6; small pox, 1; chicken pox, 29.

The above is the number of supposed *cases* of infectious disease. Further observation in a certain proportion of these led to a revision of the diagnosis.

Two cases of diphtheria, 2 of erysipelas, and 1 of enteric fever were notified severally by two doctors. One case of erysipelas was notified by three doctors.

The total number of notifications, excluding chicken pox (but including 7 notified by the Medical Officer of Health), was 578, as compared with 745 in 1903. Of the total, 607, including chicken pox, 117 occurred in public medical practice—the amount payable for the certificates being £5 17s.; while 483 occurred in private medical practice—the amount payable being £60 7s. 6d. The total amount paid for notification certificates was £66 4s. 6d.

Number of Cases of Infectious Diseases notified in each month of 1904.

	Small Pox.	Diphtheria and Membranous Croup.	Scarlet Fever.	Typhoid Fever.	Erysipelas.	Puerperal Fever.
January	—	33	11	2	9	1
February	1	25	15	3	10	1
March	—	26	11	3	8	—
April	—	14	10	4	4	2
May	—	15	7	4	8	—
June	—	11	12	4	4	—
July	—	12	17	2	7	—
August	—	14	16	—	6	—
September	—	25	9	4	14	1
October	—	30	29	4	12	1
November	—	32	17	2	9	—
December	—	32	18	2	4	—
	1	269	172	34	95	6

SMALL POX.

Only one case of small pox was notified during 1904; but one additional very doubtful case occurred, and a third patient came to Brighton convalescent from a slight unrecognized attack of small pox, but did not infect anyone in Brighton.

The notified case was that of a male aged 33, who had been vaccinated in infancy. He fell ill a few days after arrival in Brighton, having been infected in London. He had a greatly modified attack, with no secondary fever.

CHICKEN POX.

This disease ceased to be compulsorily notifiable after January 24th, up to which date 29 cases were notified in 1904. No question of confusion with small pox arose, except in the above case of modified small pox, which occurred after the notification of chicken pox had ceased. The doctor who was unaware of this fact, called respecting his patient, and I was thus enabled to interview the latter, and discover a case of small pox, which would otherwise have escaped detection.

SCARLET FEVER.

The incidence of scarlet fever since notification came into operation is shewn in the following table :—

	Number of cases per 100.000 of population.	Number of deaths per 100,000 of population.	Case-mortality. Number of deaths per 100 cases notified.
1892	320	7	2·1
1893	408	9	2·2
1894	185	3	1·6
1895	164	4	2·5
1896	206	5	2·3
1897	270	10	3·7
1898	305	6	2·0
1899	667	8	1·2
1900	474	10	2·1
1901	142	1	·6
1902	117	2·4	2·1
1903	155	0	0
1904	136	1·6	1·1

There were fewer cases than in the preceding year. Two deaths occurred from this disease, one of a puerperal patient (source of infection undetected), and one of a child who also had severe erysipelas.

Of the total 172 notified cases, 140 or 83·7 per cent. were treated in the Sanatorium. Of the total cases, one case occurred in 131 private houses; in each of 11 houses, two cases occurred; in each of 3 houses, three cases occurred; in 1 house, four cases; and in 1 boarding school, five cases.

Return Cases—Hospital Treatment.—Only one doubtful case occurred last year, though the most critical investigation was made of the causation of every case of scarlet fever. This case was a child, aged 13, admitted to the Sanatorium, July 18th, with scarlet fever, complicated on admission by purulent nasal discharge. She returned home at the end of 51 days, and 54 days later her sister failed with scarlet fever.

Return Cases—Home Treatment.—Nurse T., æt 28, failed with scarlet fever on 17th July. On the 12th July she brought with her from London a boy æt 9, whom she had nursed through an attack of scarlet fever. This patient had been ill for six weeks and had desquamated, and was stated to have had no discharges from nose or ear throughout. From the 12th to the 17th July inclusive, the nurse and her ex-patient slept in the same bed. Disinfection seems to have been effectively carried out in London, including a complete change of apparel. The ex-patient, who was a doctor's son, when examined by me immediately after the nurse's case was recognised appeared perfectly well.

As bearing on the interpretation of the above return cases the following cases may be mentioned:—

H. I., æt $2\frac{1}{2}$, onset scarlet fever, 5th February. He had not been out of the house for a fortnight before this. His sister had been admitted to the Sanatorium on 16th December, 1903, and was still there on 5th February.

W. N., æt $13\frac{1}{2}$, onset scarlet fever, 22nd May. On the 2nd April, K. W., æt 9, had been removed to the Sanatorium with scarlet fever from the same house, and was sent home on May 25th.

In several other instances slight undetected cases were the cause of spread of infection, but it is unnecessary to give details of these cases. The subject is fully dealt with in an address which I gave in the Public Health Laboratory of the Victoria University, Manchester, on March 9th, 1904.*

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* The Rôle of "Missed" Cases in the Spread of Infectious Diseases.

There was some evidence of milk infection producing five cases of scarlet fever during the year; the presumably infecting patient being a milk carrier, who had scarlet fever for several days, while still doing his work. If this was the real source of infection, it it remarkable that the number of persons infected in a large supply was so small.

DIPHTHERIA.

The incidence of diphtheria in Brighton, since notification came into operation, is shewn in the following table:—

	Number of cases per 100,000 of population.	Number of deaths per 100,000 of population.	Case-mortality. Number of deaths per 100 cases notified.
1892	93	20	20·2
1893	157	30	18·4
1894	109	22	21·1
1895	172	16	8·8
1896	142	17	10·9
1897	154	10	6·5
1898	313	18	5·8
1899	547	51	9·2
1900	554	58	10·2
1901	567	52	9·1
1902	349	29	8·3
1903	326	26	7·8
1904	213	13	6·0

The steady fall in the death-rate from this disease is gratifying, so low a death-rate as that of last year not having been reached, except in 1897, since 1891. The number of cases has not declined proportionately to the number of deaths. This is partly owing to the fact that bacteriological diagnosis now discovers cases of diphtheria which in past years escaped unnoticed.

Protracted Infection in Diphtheria.—The following instances exemplify this very important feature of diphtheria:—

(1). A lady aged 82 failed with diphtheria June 24th. She was nursed at home throughout in a very large airy house. A nurse who attended to her failed with diphtheria 12 days after beginning to nurse the above patient, and was removed to the Sanatorium. She had a severe attack complicated by endocarditis and diphtheritic paralysis and her throat swabs remained positive for 84 days from the onset of her illness. The old lady herself, although not very ill, gave positive swabs until the 1st September, *i.e.*, 69 days from the onset of her illness. Then one negative swab was obtained and disinfection requested on the strength of this on the 10th September. On August 25th, the Klebs-Lœffler bacillus from this patient was tested in London and found to be virulent.

(2) The following family were among the first cases in connection with a small school outbreak of diphtheria last September. S. P. æt 5, fell ill 26th September, with a "cold and sore throat." Not seen by a doctor. On October 4th, the brother, E. P., æt 10, fell ill with diphtheria, and a sister, E. P., æt 9, on October 5th. These were all treated at home; and attention now being drawn to S. P., a positive swab was obtained from him on October 13th. The three children have remained isolated since that time. On February 19th, 1905 (*i.e.*, 147 days after onset) S. P. still showed diphtheria bacilli in his throat, and so also did E.P. 136 days after the onset of her definite attack of diphtheria.

(3) The following case probably also illustrates protracted infection. I. T., æt 9 years, had nasal discharge on November 8th, 1903, no other symptoms noticed. Owing to the occurrence of definite cases of diphtheria in the same school, a specimen was taken on November 19th from the above patient's nasal discharge, and diphtheria bacilli found. On the 1st December a negative specimen was obtained. I. T. remained at home. On November 16th, F. T., æt 4, sister of the last patient fell ill with diphtheria, and on the 18th was admitted to the Sanatorium, and discharged on the 9th January, 1904, after three negative swabs. Both these children remained well until April 21st, 1904, when I. T. fell ill with a definite attack of diphtheria, and was admitted to the Sanatorium on April 25th. Probably I. T. had been harbouring latent infection since the previous November, but for two months before onset of his definite attack of diphtheria he had attended school without causing any cases of diphtheria among his school fellows.

(4) The following case suggests infection lying latent for three years, though the evidence cannot be regarded as conclusive. B. G., æt 6, had definite diphtheria onset February 20th, 1901. She was treated in the Sanatorium, and a fortnight after leaving it, her mother states that she began with ear discharge, this lasting for four or five days. It then disappeared and did not recur until 17th April, 1904, after an attack of ear-ache. A swab of the ear discharge was taken April 26th, and shewed diphtheria bacilli. On April 23rd, 1904, E. G., æt 11, who slept in the same bed as B. G. and two other children (who have never had diphtheria) fell ill with diphtheria and was removed to

the Sanatorium on 25th April. No other cases of diphtheria had occurred in the school attended by E. G., and no source of infection except B. G. was discovered.

(5) B. W., æt 13, admitted to Sanatorium March 25th on third day of illness, discharged at end of 120 days on July 13th, although still positive, precautions being given to the parents. No nasal discharge throughout. Swabs remained positive until September 5th, *i.e.*, for 167 days.

(6) M. N., æt. 1 year and ten months, admitted to Sanatorium on June 23rd, on the fourth day of an attack of croup. Never any visible exudate, but a positive swab before admission, and remained positive with nasal discharge until November 13th. Total duration of infection 152 days.

(6) O. M., æt. 4, admitted Sanatorium November 10th, 1904, with slight pharyngeal diphtheria, no nasal discharge. Is still in Sanatorium, February 22nd (at end of 104 days) twelve successive swabs having been positive. Culture from this case sent to Lister Institute, February 22nd, and proved to be virulent.

Return Cases—Hospital Treatment.—Three cases were traced during the year. The particulars of one of these cases are given elsewhere.*

2nd Case.—K. B., æt 12, onset diphtheria, November 17th, admitted Sanatorium November 18th, 1903. No nasal or ear discharge throughout, but had eczema naris on December 23rd, and on this date and December 30th nose swab was positive. Sent home on January 11th, 1904, after two consecutive negative nasal and three negative throat swabs.

F. B., æt 14, sister of the above patient, failed with diphtheria 37 days later. It was now ascertained that K. B.'s nose became sore about three weeks after leaving the Sanatorium, and on February 23rd (four days after F. B. was admitted to Sanatorium), specimen from K. B.'s throat was positive. On March 28th, throat swab from K. B. positive. Of the other members of the family, the father and mother and a little boy, æt 7, who slept in the same bed with K. B. for a fortnight after he left the Sanatorium, remained well.

3rd Case.—M. S., æt 6, onset diphtheria September 28th, Sanatorium October 3rd, discharged on November 29th, at the end of 57 days after three negative swabs. She had profuse nasal discharge when admitted, and on October 16th a cervical abscess. For nine days before leaving Sanatorium was in a separate large ward with one other convalescent patient. Had no nasal discharge after November 1st. After she went home she apparently infected two brothers and one sister.

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* Paper on "Protracted and Recrudescent Infection in Diphtheria and Scarlet Fever."—Public Health, August, 1904, p. 690.

Return Cases—Home Treatment.—One case occurred, a patient who had been treated at home and sent down from London when convalescent from diphtheira, infecting the landlady's child.

Multiple Cases in Houses.—Of the total 265 cases notified, there was one case each in 213 private houses, two cases each in 9 houses, three cases each in 3 houses, and four cases in each of 3 houses. In addition to the above, 7 clinical cases and 5 cases recognised only by bacteriological examination occurred in the Children's Hospital.

WHOOPING COUGH.

The death-rate from this disease in 1904 was 28 as compared with 12 per 100,000 in the preceding year.

Of the 217 cases coming to our knowledge during the year, of which 36 were fatal, 31 were under 1 year of age, 24 aged 1-2, 26 aged 2-3, 28 aged 3-4, 27 aged 4-5, 30 aged 5-6, 26 aged 6-7, 18 aged 7-8, and 7 at higher ages. All the deaths were under five years of age.

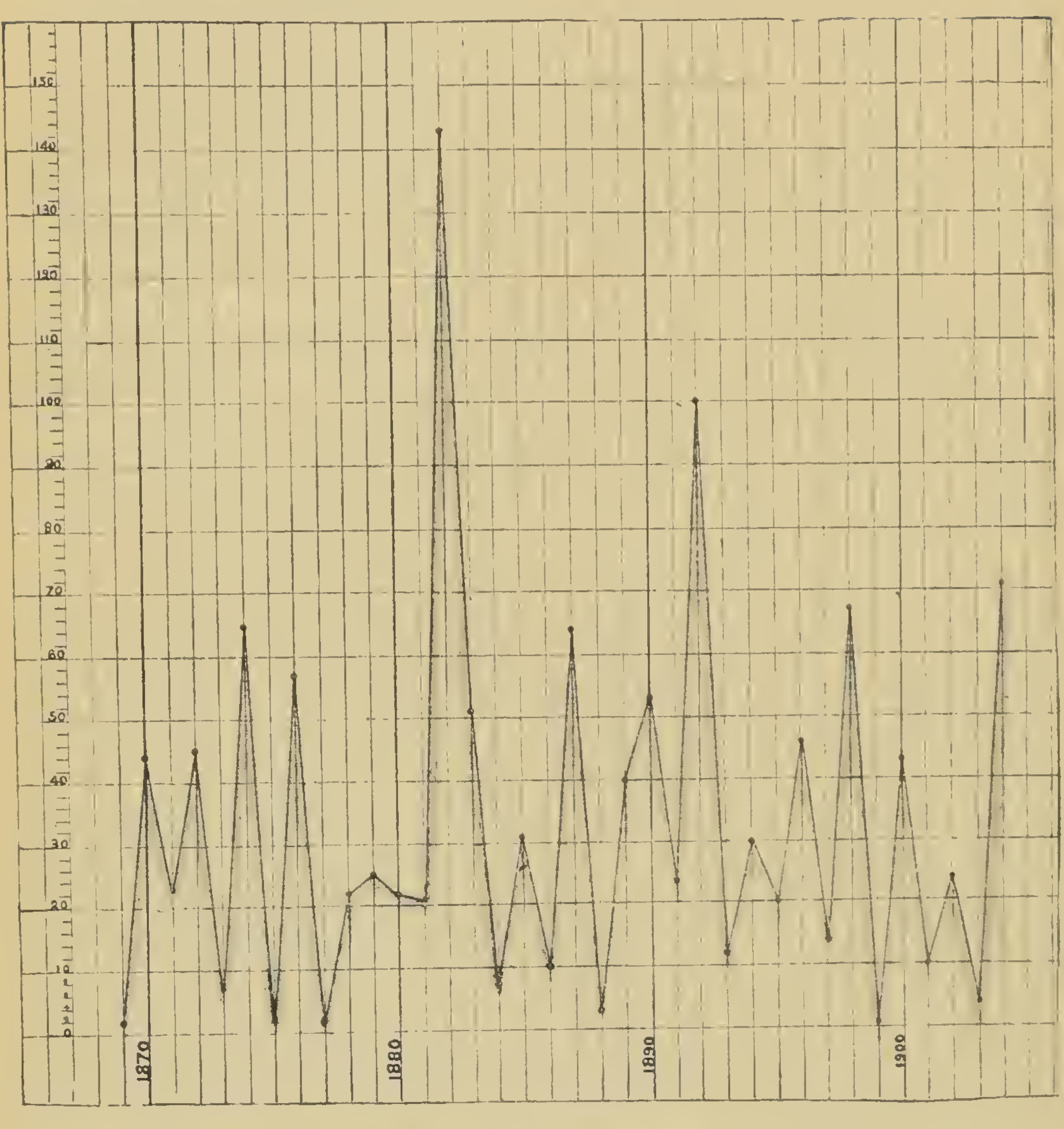
In 50 houses one case each occurred, two cases each in 19 houses, three cases each in 23 houses, four cases each in 10 houses, and five cases each in 4 houses.

MEASLES.

During 1904, measles was the registered cause of 94 deaths. Of these 11 were registered in the 1st, 65 in the 2nd, 17 in the 3rd, and one in the 4th quarter of the year. The total number 94 is exceptionally large, measles having caused only five deaths in 1903, 30 in 1902, 12 in 1901, and 53 in 1900.

Epidemic Cycles.—Before describing the special features of last year's epidemic of measles and endeavouring to gather from it lessons for future guidance, it is well to take a wider purview of its local incidence in order that the present epidemic may be seen in its true perspective.

The data for this are given in the following diagram:—



Annual Death-rate from Measles in Brighton per 100,000 of Population 1869-1904 inclusive.

It will be seen that our local experience of measles, like that of other communities, is one of alternate epidemic and non-epidemic years. In every 2nd, or in every 3rd year at an outside limit, an epidemic occurs; and at intervals which from 1875 onwards are respectively seven, nine, six and five years epidemics of greater magnitude occur. We have then to deal with minor and major epidemics, and in 1904 the time for the recurrence of a major epidemic had come. The above curve deals only with deaths. If every case were notified it would be practicable to ascertain whether with a higher death-rate there was a correspondingly greater number of cases of measles. At present one can only infer with some degree of probability that during the major epidemics the case-mortality (fatality) of the disease is also increased.

The highest and lowest death-rates in successive major epidemics and inter-epidemic periods are shewn below:—

MEASLES.

Lowest and Highest Death-rates per 100,000 of Population.

Year.	
1869	2
1874	65
1877	2
1882	143
1888	3
1892	100
1893	12
1898	67
1903	4
1904	71

It will be seen that the epidemic of 1904 was but a repetition of our past experience of this disease, and that we have in measles a disease which is almost intractable to such measures of prevention as have hitherto been practised. What these measures were and whether they are capable of being improved or supplemented will be shortly discussed.

A correction is needed in the above death-rate in view of the fact that measles as a fatal disease is almost confined to children under five years of age, and that the proportion of children under five in the population has declined in recent years with the birth-rate. Applying this correction to the deaths from measles in 1882 and 1904, and assuming that all (instead of nearly 95 per cent. as in 1904) of the deaths from measles occurred at ages under five, the death-rate per 100,000 children under five was 1,209 in 1882 and 765 in 1904. Thus approximately the difference was one of only 37 per cent. instead of the 50 per cent. shewn in the death-rates for the entire population.

Seasonal Incidence.—The seasonal incidence of deaths from measles is indicated in the Table on page 39. It will be noted that in successive minor epidemics the greatest mortality fell in the 3rd, 2nd, 2nd, 3rd, 4th, 3rd and 3rd quarters of the epidemic year; and that in successive major epidemics the greatest mortality fell in the 1st, 1st, 2nd, 4th and 2nd quarters of the epidemic year. There does not appear to be any consistent seasonal incidence; but it is to be noted that the mortality from measles was never excessive both in the early and late parts of the same year. This is important in view of the common description of the seasonal incidence of measles, based on the Registrar General's curves for London. These curves show a double seasonal maximum one in June and one in December, based on the average experience of 50 years. Almost certainly this double maximum is due to the fact that there is no regular seasonal period for measles and that it may occur with apparent indifference, either in spring or winter.

Classifying our local deaths since 1868, into those occurring in major epidemic years (six in number), those occurring in minor epidemic years (eight in number), and those occurring in inter-epidemic years (twenty-two in number), we find that 579 deaths occurred in the 1st, 386 in the 2nd and 332 in the third group. The relative incidence of deaths at different periods of the year in each of these groups is shewn below:—

Percentage of total deaths from Measles in each group occurring in

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter
Major Epidemics...	37	35	10	18
Minor Epidemics...	21	16	34	29
Inter-Epidemic Periods... ...	23	15	21	41

Thus in inter-epidemic periods the aggregate mortality was highest in the 4th quarter, in minor epidemics in the 3rd and 4th, and in major epidemics in the 1st and 2nd quarters of the year. It is likely, therefore, that some of the excessive mortality shewn by major epidemics of measles is due to the accident that they occurred in the earlier part of the year, when respiratory complications are likely to be more frequent and more severe. This, however, probably does not explain the entire difference between major and minor epidemics. It is likely that in the minor epidemics a considerable proportion of children have escaped infection, and that the large accumulation of susceptible material is the main cause of the major epidemics. It is likely also that the infection of measles assumes a more virulent type in the major epidemics.

It will be convenient to discuss in order

1. The course of the recent epidemic, particularly in relation to schools.
2. Age and sex distribution of known cases of measles.
3. Case mortality of the disease in relation to age.
4. Susceptibility to attack.
5. Measures to be taken to prevent or minimise future epidemics.
    1. Notification by teachers and others.
    2. Home or Hospital isolation.
    3. Is special disinfection necessary?

The Incidence of the Epidemic according to Schools.—For information of non-fatal cases we are almost entirely dependent on school teachers, as measles is not a scheduled disease under the Infectious Disease Notification Act.

The following table shows the number of cases occurring in each elementary school of which we obtained information; also for each school the week in which the first and last cases occurred. The last column gives the week during which numerous cases ceased to occur. The schools are given in the order in which cases of measles occurred in them.

TABLE II.

Classification of Cases of Measles among School Children according to School.

No. in Average Attendance.	NAME OF SCHOOL.	Boys.	Girls.	Infants.	Total Cases.	First case occurred in week ending	Last known case occurred in week ending	Epidemic ceased week ending
(147)	College	—	—	63	63	Jan. 30	June 18	Mar. 5
(120)	St. Paul's ...	—	—	20	20	Feb. 13	Mar. 12	—
(440)	Queen's Park Terrace ...	—	—	1	1	Feb. 20	—	—
(397)	Rugby Road ...	2	2	70	74	Mar. 5	May 14	May 7
(156)	St. Bartholomew's	—	—	53	53	Mar. 12	May 7	April 2
(346)	Elm Grove Board	—	—	39	39	Mar. 12	April 9	April 9
(255)	Stanford Road ...	20	15	93	128	Mar. 12	June 11	May 28
(375)	Lewes Road Board	—	—	7	7	Mar. 19	May 28	—
(252)	Bentham Road ...	—	—	1	1	Mar. 26	—	—
	Crown Street ...	—	—	33	33	Mar. 26	June 4	May 28
(300)	Pelham Street ...	—	—	69	69	Mar. 26	Aug. 6	May 21
(190)	Preston Road ...	—	2	18	20	April 2	May 14	April 30
(208)	St. Martin's ...	—	—	42	42	April 2	May 7	April 30
(214)	Middle Street ...	—	—	4	4	April 2	April 23	—
(180)	All Souls	—	—	19	19	April 9	May 14	May 14
(206)	Circus Street ...	—	—	18	18	April 9	May 7	May 7
(255)	Hanover Terrace	—	—	25	25	April 9	June 4	April 23
(285)	Park Street ...	—	—	29	29	April 16	July 16	July 9
(114)	Preston National	—	—	11	11	April 23	May 28	May 28
(180)	mixed Annunciation ...	—	—	28	28	April 23	June 11	May 14
(90)	Bristol Road ...	—	—	20	20	May 21	July 16	July 9
(240)	Upper Gardner Street	—	—	9	9	May 21	June 18	—
(250)	Richmond Street	—	—	1	1	May 21	—	—
(155)	St. Joseph's ...	—	—	2	2	May 21	May 28	—
(92)	St. Mark's ...	—	—	1	1	June 4	—	—
(229)	St. Margaret's ...	—	—	9	9	June 11	July 23	—
mixed (243)	St. John's ...	—	—	21	21	July 9	July 23	—
Total, omitting Mixed Schools		22	19	695	736			

Cases occurred in 12 provided and in 14 non-provided schools. In three provided and in six non-provided schools no cases were reported.

The main outbreaks were in College, Rugby Road, St. Bartholomew's, Stanford Road, Pelham Street and St. Martin's Schools.

The disease first showed itself in the week ending January 30th in the College Infants School, in which 63 cases altogether occurred in that and subsequent weeks. It would be too cumbrous to follow the weekly course of the epidemic in each school which was affected, but the following table shows the weekly incidence of cases in the schools which suffered most :—

TABLE III.

School.

Week Ending.		College.	Rugby Road.	St. Bartholomews.	Stanford Road.	Pelham Street.	St. Martin's.
January	30	1	—	—	—	—	—
February	6	3	—	—	—	—	—
,,	13	18	—	—	—	—	—
,,	20	16	—	—	—	—	—
,,	27	21	—	—	—	—	—
March	5	1	1	—	—	—	—
,,	12	—	—	3	4	—	—
,,	19	—	—	6	8	—	—
,,	26	—	[illegible]	26	3	1	—
April	2	—	3	15	1	4	2
,,	9	—	5	1	2	7	7
,,	16	—	3	1	4	7	7
,,	23	1	14	—	8	16	19
,,	30	1	24	—	23	11	10
May	7	—	18	1	17	11	2
,,	14	—	2	—	16	8	—
,,	21	—	—	—	16	2	—
,,	28	—	—	—	19	—	—
June	4	—	—	—	6	—	—
,,	11	—	—	—	1	—	—
,,	18	—	—	—	—	—	—
,,	25	—	—	—	—	—	—
July	2	—	—	—	—	—	—
,,	9	—	—	—	—	—	—
,,	16	—	—	—	—	—	—
,,	23	—	—	—	—	1	—
,,	30	—	—	—	—	—	—

The following schools were closed on account of measles :—

Infants Departments of All Souls ,, ,, Annunciation ,, ,, Pelham Street ,, ,, Stanford Road ,, ,, Circus Street	from May 16th until May 27th.
,, ,, St. John's School ,, ,, St. John the Baptist, Bristol Road	from July 15th until August 27th, after summer holidays.

I am doubtful of the utility of school closure in measles. It ought to be unnecessary, if the prompt information asked for on page 35 were given.

Age and Sex Distribution of known Cases.—Altogether 1,234 cases came to my knowledge of which 94 were fatal. The ages and sexes of these cases, fatal cases being also stated separately, are given in the following table:—

TABLE IV.

	Deaths from Measles in 1904.			*All known cases of Measles in 1904 (including deaths).*		
Age.	Male.	Female.	Total.	Male.	Female.	Total.
0-3 months	—	—	—	3	1	4
3-6 ,, ...	1	—	1	5	6	11
6-12 ,, ...	10	9	19	35	30	65
Total under 1 year ...	11	9	20	43	37	80
1-2 years	22	15	37	76	65	141
2-3 ,, ...	9	8	17	87	63	150
3-4 ,, ...	4	3	7	114	83	197
4-5 ,, ...	1	7	8	98	96	194
5-6 ,, ...	1	4	5	98	104	202
6-7 ,, ...	—	—	—	78	66	144
7-8 ,, ...	—	—	—	34	36	70
8-9 ,, ...	—	—	—	12	9	21
9-10 ,, ...	—	—	—	8	4	12
10-11 ,, ...	—	—	—	4	7	11
11-12 ,, ...	—	—	—	—	3	3
12-13 ,, ...	—	—	—	2	3	5
13-14 ,, ...	—	—	—	—	2	2
14 ,, ...	—	—	—	—	2	2
Total	48	46	94	654	580	1234

The returns of cases given in the preceding table are extremely defective. It is unfortunately impossible to ascertain what number of cases were never notified. Our chief source of information of cases of measles is from teachers, and while some teachers notify cases known to them promptly and completely. this is not done by all. There is strong reason for believing that an impression had become prevalent among teachers that since the abolition of the epidemic grant under Par. 101* of the Code, cases of measles need not be notified. Whether this is so or not, there is no doubt that there was more delay and less completeness in the notification of cases of measles during this epidemic than has been our experience in the past. On my drawing the attention of the Clerk of the Education Committee to this fact, when the measles had become revealed to me by the occurrence of fatal cases, a circular letter was sent out to teachers which improved matters during the later part of the epidemic.

Of the 1,234 cases of measles known to have occurred during 1904, 1,109 either attended elementary schools or occurred in houses secondary to cases among scholars. In 125 other cases, the first case in each household did not attend school.

The age and sex distribution of each of these groups of cases is given in Tables V. and VI. (Appendix).

The preponderance of school cases shewn in these tables is partly owing to the fact that some notification of school cases occurs, very little of other cases. There can be little doubt that measles chiefly prevails among scholars, but this may merely be a matter of the normal age incidence of the disease; and it is impossible to draw any accurate inference on this point from the preceding figures. Judging from general experience there is little doubt that measles is spread to a very great extent by the attendance at school of children in the early infectious period before the rash appears.

Fatality of the Disease.—One important fact bearing on school attendance can be learnt from the figures in Table IV.

Taking these figures with the knowledge that they understate the number of cases, it appears that the total fatality of measles at all ages was something under 7·6 per 100 cases. In children under 1 year it was something under 25 per cent., in children aged 1-2 under 22 per cent., in children aged 2-3 under 11·3 per cent., in children aged 3-4 under 3·6 per cent., in children aged 4-5 under 4·1 per cent., in children aged 5-6 under 2·5 per cent., while among the 270 known cases at ages 6 and upwards no deaths occurred.*

The fatality rates are probably given somewhat too high for each of the ages under six years; but *it is clear that out of the 94 deaths from measles not one occurred at ages over six.* Judging by the experience of the recent epidemic if children could be prevented from catching measles until they are six years of age, the mortality from this disease would almost, if not quite, disappear.

That this experience is not exceptional is shewn by our experience of measles in 1882 and 1892. In these two years there were 238 deaths from measles in which the age of the patient was noted on the inspection sheets, and only 3 of these were at ages over 6.

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*Incidentally the above figures give some clue to the extent of notification of measles in Brighton. In a special report to the Local Government Board (24th A.R. Loc. Gov. Bd.). Dr. Theodore Thomson gives for a district in which measles was compulsorily notifiable the fatality at different ages. This is compared with Brighton in the following table:—

Deaths per 1,000 children attacked at each age.

	Under 1.	1-2.	2-3.	3-4.	4-5.
Brighton, 1902 ...	250	220	113	36	41
District X, 1894 ...	96	197	102	49	15

Households Invaded.—The 1,234 cases of measles coming to my knowledge occurred in 625 households, viz., one case each in 245 houses, two cases each in 207 houses, three cases each in 130 houses, four cases each in 33 houses, five cases each in seven houses, and six cases each in three houses.

Susceptibility to Attack.—When a house invaded by Measles is visited, particulars are obtained of the number of children in the house who have already had measles, and of those who, although they had not had measles, did not acquire it within one month of the onset of the first case in the house, when the final visit is usually made. To obtain further information on the latter point and in order to test the question whether disinfection after measles is desirable, every measles house was revisited during August and September, *i.e.*, several months after the epidemic had died down. The results of this re-inspection are set forth in Table VII. There were in these houses, either in the same family or among other families, 2,286 children under 15 years of age. Of these we have seen that 1,234 acquired measles; 883 other children were stated to have suffered from measles on some former occasion; and 169 children under the age of 15 escaped attack and still continued to show immunity when re-visited in August and September.

TABLE VII.

Age and Sex of those Children who were exposed to Measles during 1904 but escaped attack.

	A. Those stated to have had Measles previously.			B. Those stated not to have had Measles previously.		
Age.	Male.	Female.	Total.	Male.	Female.	Total.
0-3 months	—	—	—	14	11	25
3-6 ,, ...	—	—	—	9	14	23
6-12 ,, ...	—	—	—	12	3	15
Total under 1 year ...	—	—	—	35	28	63
1-2 years	3	—	3	11	9	20
2-3 ,, ...	3	2	5	3	9	12
3-4 ,, ...	7	6	13	4	3	7
4-5	8	7	15	6	7	13
5-6 ,, ...	22	24	46	1	5	6
6-7	34	33	67	4	4	8
7-8 ,, ...	43	52	95	6	2	8
8-9 ,, ...	46	31	77	3	2	5
9-10 ,, ...	58	45	103	1	2	3
10-11 ,, ...	51	50	101	3	2	5
11-12 ,, ...	47	43	90	2	4	6
12-13 ,, ...	39	33	72	5	4	9
13-14 ,, ...	32	49	81	1	3	4
14-15 ,, ...	54	61	115	—	—	—
Totals	447	436	883	85	84	169

Of these apparently insusceptible children, 63 were under 1, 20 aged 1-2, 12 aged 2-3, 7 aged 3-4, 13 aged 4-5, 30 aged 5-10, and 24 aged 10-15. Assuming that the 883 children stated to have had measles formerly were protected by their attacks* it follows that 169 out of 1,403 children or about 12 per cent. were not attacked by measles although this disease occurred in the same house. The evidence points to the fact that the vast majority of these 169 escaping children were really exposed to infection, no serious attempt at isolation having been made.

These 169 children lived in 123 households. In 85 households there was only one family in the house, in 79 there were two families, in 5 three families. Of the children who escaped, 116 belonged to the same family as the measles patient, 53 to another family. Of the total, 99 belonged to the labouring, 49 to the artizan, 20 to the shopkeeper and 1 to other classes. The precautions capable of being taken against the spread of infection in these houses were almost without exception of the flimsiest character. The above particulars appear to indicate clearly that the children in question were in reality temporarily and perhaps permanently immune against infection, and that their escape was not due to accidental or purposeful avoidance of contact with infection.

In the 123 households, 205 cases of measles occurred, and the number of children under 15 in these houses was 578. Of this number, 169 children escaped measles, not having had a previous attack, while 204 escaped who had suffered from measles at some previous date.

PREVENTIVE MEASURES AGAINST MEASLES.

The contents of the last paragraph lead naturally to a consideration of the preventive measure against measles, which probably would be stated first by anyone asked to devise a scheme of preventive measures, viz. disinfection.

As to the Non-Necessity for Disinfection after Measles.—Of certain infectious diseases like diphtheria and enteric fever we know certainly, and of the remainder we believe by analogy, that they are communicated by germs discharged from the patient in the secretions or excretions from his skin, lungs, mouth, nose, kidneys, or bowels. Thus in small pox it is particularly the skin, in diphtheria and scarlet fever it is particularly the discharges from the throat and nose, and in measles and influenza it is particularly the discharges from the throat nose and lungs which are capable of communicating infection.

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*It is likely that a certain proportion of these had really had German measles, and ought therefore to be added to the list of susceptible children.

The length of time during which these germs are capable of surviving after being discharged by the patient varies greatly. In diphtheria and scarlet fever they have been proved to survive for long periods on articles of apparel or bedding, or on the walls of rooms which have not been disinfected. This is also the case in consumption.

In influenza all the available facts point to fugitive vitality of infective material. I do not know of any evidence to show that susceptible persons commencing to occupy a bedroom previously occupied by an influenza patient at the end of say two months after it has been vacated by the latter—the room and the linen in it having been subjected to the ordinary processes of domestic cleansing—have become infected. Extra-corporeally the influenza-germ must, I think, be regarded as very short-lived.

For several years it has appeared to me that the same must be true in regard to measles, and I have acted, in part because there was no choice, on this view in practice. There are several reasons for this:

1st.—In the absence of compulsory notification of measles, we know of only a certain proportion of the cases, and it is unlikely that with such a rapidly spreading explosive infection, preventive measures, such as disinfection, in say half the invaded houses would successfully prevent the spread of infection; especially when it is remembered that our information as to the known cases is usually belated. In consumption exactly the opposite state of things applies. It spreads slowly, prolonged exposure to infection is usually required before sufficiently massive infection to produce disease is caused, and the infection adheres to wall paper and to articles of clothing and furniture. Hence disinfection in consumption does immediate good and effectively prevents the spread of infection to subsequent occupants of the same house. True we cannot disinfect every place where the patient may have expectorated, but the history of the majority of cases indicates that infection has been acquired domestically or industrially or in public houses, &c., and it is quite practicable to overtake and overcome these three main foci of infection in consumption.

2nd.—Little attempt is made at isolation of cases of measles, and in the majority of households it is impracticable apart from removal to hospital. Hospital provision to meet the requirements of the case would need to be on an enormous scale, because of the explosive character of each epidemic (see also page. 33). It would be fruitless work to disinfect the bedroom of a patient who had been allowed after the first week, or even earlier, to mix freely in and outside his bedroom with other children. As already indicated this, furthermore, could only be done in a proportion of the total cases, owing to lack of notification.

3rd.—Even the limited disinfection that would be required for the cases of measles coming to our knowledge would greatly overtax our present staff and necessitate an additional disinfector. I should not hesitate to ask for this if good were likely to accrue. It would mean that during an epidemic of measles the whole time of several men would be occupied in disinfecting. Should we gain any material advantage by employing these men ?

A glance at the curve on page 20 suggests doubt on this point. Epidemics of measles recur every second year and major epidemics every fifth or sixth year with almost mechanical regularity.

It may be argued that strict disinfection would prevent these regularly recurring peaks, or at least diminish their height. Infection in scarlet fever may, we know, be spread directly from person to person, or indirectly by clothing, books, &c., which have been in contact with past infection. Does the same apply to measles ?

To test this point I arranged to have every house re-visited in August and September last, in which during the previous seven months cases of measles had occurred. Five cases were re-visited in December, because at the time of the first re-inspection there had been only 2 or 3 weeks exposure to supposed infection. No disinfection, it will be noted, had been carried out in these houses.

The total number of houses invaded by measles was, it will be remembered, 625. In 534 of these houses the occupants were the same as on the first visit, and no further children had been attacked by measles. The immunity of the 169 children in these houses (see Table VII.), who had not previously acquired measles, had continued. Of the remaining houses 23 on re-inspection were found to be empty and in 66 of them new families (either lodgers, or chief tenants, or both), were now living or new babies had been born (in 8 families). These 66 were specially investigated. The results are set forth in the following tables :—

Table VIII.

Re-inspection made of houses into which new families had come, at intervals after measles in the house, of

Ages of Children in these New Families.	Under 2 months.		2-3. months.		3 4 months.		4·5 months.		5 6 months.		6-7 months.		7-8 months.		8 9 months.		9-10 months.	
	Had	Not had	Had	Not had	Had	Not had	Had	Not had	Had	Not had	Had	Not had	Had	Not had	Had	Not had	Had	Not had
	Measles previously.		Measles previously.		Measles previously.		Measles previously.		Measles previously.		Measles previously.		Measles previously.		Measles previously.		Measles previously.	
Under 1	—	—	—	—	1	—	—	5	—	4	—	2	—	1	—	—	—	1
1-5	—	—	1	—	3	1	2	2	2	5	5	—	1	2	—	—	—	—
5-10...	—	—	1	—	7	1	8	1	9	—	2	1	—	—	—	1	—	—
10-15	—	—	2	—	1	—	12	—	2	—	—	—	—	—	—	—	—	—
Total all ages under 15...	—	—	4	—	12	2	22	8	13	9	7	3	1	3	—	1	—	1

It will be seen that of the 86 new children who had come into these presumably infected houses, 59 were stated to have had measles previously, only leaving 27 who were unprotected and possibly exposed to infection. This number needs to be further reduced by four, in view of the fact that during the epidemic 12 per cent. of those exposed to infection escaped.

Before attempting any inferences from these 27 children, it is necessary to ascertain the duration of their exposure in the presumably infected houses at the time re-visits were made. This is given in the following tabular statement :—

Duration of exposure of Susceptible Children coming into non-disinfected houses before date of re-inspection and after cases of measles in the same houses :—*

Age.	Duration of Exposure.	Age.	Duration of Exposure.
$1\frac{1}{3}$ years	17 days (No later information obtainable)	8 months	6 weeks
3 years	14 days (Left Brighton at end of this time, but 2 months later no measles)	$1\frac{10}{12}$ years	7 weeks
$1\frac{1}{4}$ years	29 days	2 months	2 months
7 months	29 days	2 months	2 months
5 years	1 month	5 years	3 months
1 month	1 month	4 years	3 months
10 weeks	1 month	$1\frac{1}{6}$ years	3 months
5 weeks	5 weeks	3 months	3 months
$1\frac{1}{6}$ year	5 weeks	5 months	3 months
3 years	5 weeks	4 years	3 months
11 months	5 weeks	8 years	$3\frac{1}{4}$ months
5 years	6 weeks	$4\frac{1}{2}$ months	$4\frac{1}{2}$ months
2 years	6 weeks	$4\frac{1}{2}$ months	$4\frac{1}{2}$ months
6 months	6 weeks		

The above data are scanty, though they are all that the recent widespread epidemic furnishes. They have been examined with the utmost care, and the facts as to each case critically considered.

On the hypothesis of infection being retained on floors or walls, &c., at least 15 or even 20 of these 27 children ought to have acquired measles. None of them acquired it. If there had been a few instances of measles among the number I should have refrained from pressing a case based on scanty data, even though the majority of the children had escaped infection. But in view of the fact that the entire experience points in one direction, it is justifiable to infer provisionally that *the infection of measles is short-lived and that domestic cleansing suffices for disinfection.* This conclusion is obviously subject to revision if a series of unfallacious positive facts are forthcoming at any future time in contradiction to the negative facts here adduced.

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*Of the children named in the above table, 8 did not belong to new families coming into the infected houses, but were newly born infants of parents who had lived in these houses through the measles epidemic.

Isolation of Cases of Measles.—The isolation of every case of measles from the first onset to the end of the third week would undoubtedly enable an outbreak to be brought abruptly to a close, as no second crop of cases would occur. But I can hold out no hope of present accomplishment of this ideal.

It involves the most conscientious care, the most efficient means for home isolation in every household, the utmost promptitude, and an acumen on the part of mothers which it is unreasonable to expect.

For measles is acutely infectious during the two or three days in which the patient has running from the eyes and nose before the rash appears.

To be safe therefore, every child with a bad "cold in the head" would need to be strictly isolated.

Short of complete and prompt isolation of each case of measles, isolation of the household from other households is usually practicable though not commonly practised. A higher ethical standard is needed among parents to ensure the maintenance of isolation of infected children, both in measles and whooping cough. Gradually it may be hoped that they will learn to appreciate that these two diseases are much more serious than scarlet fever, concerning which the public conscience is already awake.

Every notified case is visited and home isolation urged, and instructions given concerning it.

Hospital Isolation might with advantage be adopted in certain cases in which home circumstances are particularly unfavourable; and I recommend that I be authorised, so far as our accommodation will permit, to admit cases of measles which cannot be properly treated at home. Some saving of life would doubtless be secured by this means.

As bearing on this point the following facts as to the period of the disease at which patients die are of importance.

Stage of Disease at which Death occurs in Measles.—Of the 94 patients dying from measles in 1904, 1 died before the rash appeared, 8 died on the 4th day of the disease (reckoning from the first onset of catarrhal symptoms), 7 on the 5th day, 4 on the 6th, 10 on the 7th, 13 on the 8th, 5 on the 9th, 5 on the 10th, 6 on the 11th, 3 on the 12th, 4 on the 13th, and 3 on the 14th day of the disease. Thus 30 died in the 1st week, 39 in the 2nd week. In the 3rd week 12 died, in the 4th week 3, and at later periods in 10 instances measles was given as the primary cause of death.

In a special report on measles which I presented to the Sanitary Committee in March, 1893, similar facts were given, and it is now interesting to compare the old with the new experience, as is done below. The old experience is based on 325 deaths occurring in 1882 and in 1889-92 inclusive, the new experience on the 94 deaths in 1902.

Out of every 100 *Deaths from Measles*

	From 1st to end of 6th day.	From 7th to end of 12th day.	From 13th to end of 18th day.	From 19th to end of 24th day.	From 25th to end of 30th day.	At later Periods.
The number occurring at each of the following periods of the disease was in 1882 and in 1889-92	26	36	20	7	5	6
In 1904	21	45	18	5	1	10

It will be noted that a quarter of the deaths occur in the first 6 days of the illness, *i.e.*, within about 3 or 4 days from the appearance of the rash; that 6 out of every 10 deaths occur within 10 days of the appearance of the rash. These figures sufficiently disprove the popular and commonly held medical idea that children die from measles chiefly owing to neglect in the convalescent stages of the disease.

Quarantine of Children in Infected Households.—It is known that apparently healthy children from infected homes may carry the infection of scarlet fever or diphtheria in their clothes or throats and give it to other children at home. Does the same happen in measles? It is quite conceivable that a child not ill with measles may convey its infection to others; though not suffering himself from the disease in a recognisable form. I know of no convincing evidence on this point. It is admitted by all that measles is nearly always, if not always, transmitted by direct personal infection.

But in actual practice under present conditions this point may be neglected; for (*a*) the majority of children over seven years of age have already had measles; and (*b*) measles over this age is practically a non-fatal disease.

Table II. shows that of the total cases of measles known to have occurred among children in attendance at elementary schools in Brighton, only 22 occurred in boys' departments, only 19 in girls' departments, and 666 in the infants' departments. We have also seen (Table IV.) that every one of the deaths from measles in the borough was at ages under six. Considerations like the above, and especially the experience reported by Dr. Kerr, the Medical Officer of the London School Board* (based on work done by Dr. Davies, Medical Officer of Health, Plumstead and Dr. J. C.

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*Annual Report to the London School Board.

Thomas, Assistant Medical Officer to the London School Board, who formerly worked in my department), led me towards the end of 1903 to decide that *under the present conditions of distribution of immunity from measles*, we might safely allow children from houses infected by measles, who have already had measles, to attend the boys and girls departments of schools, while continuing to exclude all such children from the infants departments. It does not follow that this rule will remain good, if future preventive efforts result in a large number of children reaching the boys' and girls' departments without already having had measles. The rule would then need revision, though even in that case, measles being so much less fatal at these higher ages, its incidence on older children is a matter of relatively small import, except for one reason to be considered below.

The New School Rule as to Exclusion of Children for Measles.—Has this alteration of procedure been justified by results? It uudoubtedly has resulted in much less loss of average attendance than would have occurred under the old rule to exclude all the children of the invaded household from attendance at school. It does not appear to have caused any large incidence of measles in boys' and girls' departments, for only 41 out of 736 cases, or 5·6 per cent. of the total known number were among boys and girls in these departments. It is clear, therefore, that preventive measures against measles may practically be confined to infants' schools.

The only exception to this conclusion arises out of the possibility of the above 5·6 per cent. of older children taking measles home to their baby brothers and sisters who are likely to die of it. This means that in one household out of 18 there is still the risk of measles being brought home. In future years, if the babies escape, the proportion of older children capable of being infected at school and carrying infection home to the babies will probably increase. What may happen 20 years hence may be dismissed. Our precautionary measures would need to be modified to meet altered circumstances. For the immediate future, the point is that the likelihood of the importation of measles from schools into families can be prevented in 17 out of 18 families by restrictive measures directed chiefly against the infant departments.

It need only be added that a careful investigation is made of the previous history of every member of a family in which a case of measles is known to occur, and that *all the children* from the same house *who have not had measles*, whether attending the infants or higher departments, *are excluded from school.*

Notification by Teachers and Attendance Officers.—Incidentally I think it is likely that temporary harm may have been done by the above new rule involving the non-exclusion from school of children in the higher departments of schools who have already had measles. As already indicated it is probable that the abolition of the Epidemic Grant led to slackness on the part of some teachers in notifying, and the new rule may have aided the same result. To prevent this occurring in the future, it is very important that the Brighton Education Committee should have special Regulations on the subject for the guidance of teachers and attendance officers. With these there would be no possibility of misunderstanding. The proposed new special Regulations are printed in the appendix, page

If, as I understand, it is intended to have a more prompt and if possible a daily visitation of absentees, the School Attendance Officers should be made responsible for giving early intimations of these cases, or of any suspected case of infectious disease. One or two of these officers have in the past given us such help to a valuable extent; but the majority (it not being their stated duty) have not given the extremely valuable though hitherto belated information of which they are possessed, which if utilized would greatly tend to prevent the spread of infection, and still more to improve school attendance.

Dates of Notification of Cases of Measles (chiefly school cases).—In the preceding remarks as to notification of cases of measles, stress has been laid on the lateness of information. In 625 cases during 1904, I am able to give the exact stage of the disease at which I was able to obtain information of the first case in a given household. One was notified on the 1st day, 59 were notified on the 2nd, 45 or the 3rd, 53 on the 4th, 41 on the 5th, 34 on the 6th, 27 on the 7th, 34 on the 8th, 26 on the 9th, 24 on the 10th, 20 on the 11th, 22 on the 12th, 28 on the 13th, and 26th on the 14th day of the disease. Taking the cases in weeks, 260 were notified in the first week, 180 in the 2nd week, 90 in the 3rd week, 64 in the 4th week, and 31 were only known of even later than this.

Compare this general experience with our experience in two schools which we will call A and B, from one of which cases were notified promptly, and only after long delay from the other. The results are given in percentages in the following table:—

Percentages of Total Notified Cases of Measles according to date at which the Cases were Notified.

Notified	Entire Town.	School A.	School B.
In the 1st week of the Disease	42	55	0
2nd ,, ,,	29	28	13
3rd ,, ,,	14	13	29
4th ,, ,,	10	2	40
At a later period........	5	2	18

The differences which A and B show form an index to the possibilities of preventing spread of infection, totally unrealised in school B, partially realised in school A, and capable of much more complete realisation with the co-operation which is so desirable, not only in the health interests of the town, but in the cause of improved attendance at schools.

Should Measles be added to the Schedule of Notifiable Diseases?—In my special report on this subject in 1893, I inclined to the view that it should, notwithstanding the cost which this would involve. The cost last year on the 1,234 cases which were notified would, at 2s. 6d. a case, be £154. It would have been more than this if the cases which did not come to my knowledge were included, although some notifications would cost only 1s.

Prompt information is necessary to ensure the taking of precautionary measures. The alternative lies between the addition of measles to the notifiable diseases and the requirement of information from head teachers and attendance officers as soon as it is possessed by them. I recommend that the latter proposal be given a fair trial on the lines indicated in a preceding paragraph.

Measles at ages 3-5.—As the Board of Education gives grants for the school attendance of children between 3 and 5 years of age, although compulsion does not begin until the latter age, great importance attaches to the incidence of measles at these lower ages. Of the total 1234 known cases during last year, 371, of whom 74 died, occurred at ages under 3; 391, of whom 15 died, at ages 3-5; 200, of whom 5 died, at ages 5-6; and 144, of whom none have died, at ages 6-7. To postpone an attack of measles is therefore greatly to reduce its chance of producing a fatal result. At school, children under 5 are exposed on an enormous scale, in large classes closely aggregated, to the risk of measles; if such children did not attend school they would be exposed to possible measles much less often, in a less concentrated form, and only in a small proportion of instances, as compared with the present state of matters. The same remark applies to other infectious diseases, and especially to diphtheria, which is terribly fatal when it attacks a babies' class in the infant school.

Discouragement of Attendance at School of Children under 4 *or* 5.—I have always strongly urged on this account, and because there appears to be no educational advantage to the infants themselves, that children under 5 should be excluded from attendance at school.* The question is whether schools should be utilised as crêches or reserved for educational purposes. There appear to be difficulties in absolutely forbidding the attendance of children under 5, but the simple discouragement by the Education Committee of such attendance would go far to bring about the desired result, and I recommend that as a step in this direction teachers should receive an official intimation instructing them to discourage the attendance at school of children under 4 years of age.†

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*Copies of my pamphlet on this subject can be sent to those interested in it.

Summary of Report.—1. The recent epidemic of measles was only excessive when compared with previous minor epidemics.

2. Measles, as affecting school attendance, is almost confined to infant schools.

3. All or nearly all the deaths from measles occur at ages under six.

4. About 12 per cent.of the children in invaded houses escape attack, although they have not previously had measles.

5. Ordinary domestic cleansing suffices for disinfection after measles.

6. Home isolation of the patient is generally impracticable, though isolation of the infected household from other households could be enforced if early information of cases of measles were received.

7. A certain proportion of cases of measles should be treated in the Sanatorium.

8. There is no necessity to exclude children who have already had measles from attendance at boys' and girls' schools.

9. It is very desirable to exclude children under five and still more under four years of age from attendance at school. By this means a large number of children's lives could be saved, both as regards measles and other communicable diseases.

10. It is recommended that the Education Committee should be asked to pass the proposed Regulations printed in the Appendix, respecting notification of cases of measles, &c. by teachers and attendance officers.

The action taken on the above report is embodied in the health regulations, and the instructions to teachers which are printed in the appendix, pages 107 and 108.

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†In one school in Brighton, during the recent epidemic of measles, three children attending a particular school who were less than three years old caught measles. All of them died from it.

Table I.

Quarterly Deaths and Annual Death-rate from Measles, 1869-1904.

Year.	Population of Brighton.	Jan.-Mar.	Apr.-June	July-Sep.	Oct.-Dec.	Total in Year.	Annual Death-rate per 100,000.
1869	—	—	1	1	—	2	2
1870	—	7	7	15	10	39	44
1871	92,419	—	3	4	14	26	23
1872	—	23	16	2	—	41	45
1873	—	—	1	1	5	7	7
1874	—	46	14	2	—	62	65
1875	—	1	1	—	—	2	2
1876	—	22	29	5	—	56	57
1877	—	—	—	—	2	2	2
1878	—	10	5	2	5	22	22
1879	—	2	7	10	7	26	25
1880	—	2	1	2	18	23	22
1881	107,920	15	1	3	4	23	21
1882	—	84	62	9	—	155	143
1883	—	2	1	28	25	56	51
1884	—	6	1	—	1	8	7
1885	—	—	—	8	26	34	31
1886	—	7	—	4	1	12	10
1887	—	5	46	19	1	71	64
1888	—	—	—	2	1	3	3
1889	—	—	13	13	5	31	40
1890	—	1	4	12	44	61	53
1891	115,606	5	2	—	—	7	24
1892	—	—	5	13	99	117	100
1893	—	12	—	1	—	13	12
1894	—	—	4	11	22	27	30
1895	—	13	6	3	2	24	20
1896	—	4	3	33	15	57	46
1897	—	2	—	—	15	17	14
1898	—	66	13	—	3	82	67
1899	—	—	—	1	—	1	1
1900	—	—	3	33	17	53	43
1901	123,668	2	1	1	7	11	10
1902	—	23	5	2	—	30	24
1903	—	—	3	3	—	6	4
1904	—	11	64	16	1	92	71

TABLE V.

Age and sex distribution of cases of Measles where the 1st patient in the household attended school:—

	A. Primary Cases.			B. Secondary Cases in same Household.		
Age.	Male.	Female.	Total.	Male.	Female.	Total.
0-3 months	—	—	—	3	1	4
3-6 ,, ...	—	—	—	3	4	7
6 12 ,, ...	—	—	—	25	23	48
Total under 1 year ...	—	—	—	31	28	59
1-2 years	—	—	—	57	52	109
2-3 ,, ...	11	6	17	60	43	103
3-4 ,, ...	67	32	99	35	41	76
4-5 ,, ...	74	58	132	20	34	54
5-6 ,, ...	80	76	156	13	24	37
6-7 ,, ...	69	60	129	9	6	15
7-8 ,, ...	30	25	55	4	11	15
8-9 ,, ...	11	8	19	1	1	2
9-10 ,, ...	6	2	8	2	1	3
10-11 ,, ...	2	3	5	1	4	5
11-12 ,, ...	—	1	1	—	2	2
12-13 ,, ...	2	1	3	—	2	2
13-14 ,, ...	—	—	—	—	1	1
14-15 ,, ...	—	—	—	—	2	2
Total	352	272	624	233	252	485

TABLE VI.

Age and sex distribution of cases of Measles where the 1st patient in the household did *not* attend school:—

	A. Primary Cases.			B. Secondary Cases in same Household.		
Age.	Male.	Female.	Total.	Male	Female.	Total.
0-3 months	—	—	—			
3-6 ,, ...	1	2	3	1	—	1
6.12 ,, ...	4	4	8	6	3	9
Total under 1 year ...	5	6	11	7	3	10
1-2 years	12	10	22	7	3	10
2-3	12	10	22	4	4	8
3-4 ,, ...	9	6	15	3	4	7
4-5 ,, ...	1	1	2	3	3	6
5-6 ,, ...	2	3	5	3	1	4
6-7 ,, ...	—	—	—	—	—	—
7-8 ,, ...	—	—	—	—	—	—
8-9 ,, ...	—	—	—	—	—	—
9-10 ,, ...	—	1	1	—	—	—
10-11 ,, ...	1	—	1	—	—	—
11-12 ,, ...	—	—	—	—	—	—
12-13 ,, ...	—	—	—	—	—	—
13-14	—	—	—	—	1	1
14-15 ,, ...	—	—	—	—	—	—
Total	42	37	79	27	19	46

It is almost certain that the cases under 3 years of age in the above Table are chiefly fatal cases with which we became acquainted through the death-returns.

DIARRHŒA.

During 1904, 54 deaths were returned under headings which are usually classed as diarrhœa. Owing to recent changes in official medical nomenclature, some difficulty has arisen in comparing with the past, and for this reason the following Table is inserted, giving the exact heading in each case and the number of deaths from enteritis without the prefix "epidemic." The number of deaths from enteritis was 30 as compared with 52, 36, 20 and 32 in the four preceding years.

	Under One Year of Age.				Years.				
	Under 3 mths.	3-6 mths.	6-9 mths.	9-12 mths.	1-2	2-3	3-5	Over 5	TOTAL
Diarrhœa	2	13	3	2	2	—	—	3	25
Epidemic Diarrhœa ...	—	6	—	1	—	—	1	—	8
Zymotic Enteritis ...	4	2	1	2	1	—	—	1	11
Epidemic Enteritis ...	—	1	1	—	—	—	—	—	2
Gastro-Intestinal Catarrh	—	—	1	1	—	—	—	1	3
Dentition Diarrhœa ...	—	—	1	1	—	—	—	—	2
Marasmus Diarrhœa ...	1	—	—	—	1	—	—	—	2
Cholera Infantum ..	—	1	—	—	—	—	—	—	1
Enteritis and Gastro-Enteritis	6	5	12		1	1	1	4	30

In the following Table the deaths from diarrhœa are given in terms of the births, which is the nearest approach to an accurate method of statement, when the number of deaths from diarrhœa among children under one year of age is not separately given.

	Deaths per 1,000 Births.		Deaths per 1,000 Births.
1891	15·5	1898	42·7
1892	23·0	1899	62·5
1893	29·2	1900	32·2
1894	17·0	1901	28·9
1895	33·7	1902	16·3
1896	24·1	1903	16·4
1897	28·8	1904	18·3

It will be seen that notwithstanding the tendency of recent alterations in nomenclature to cause the transference of deaths from enteritis to epidemic enteritis or diarrhœa, the death-rate from diarrhœa last year was very low.

In my annual report for 1902, I dwelt on the importance of municipal scavenging and street cleansing as a means of diminishing the incidence of diarrhœa by preventing dust-contamination of milk and other foods. It is unfortunate that it fails in hot summers when the necessity for extra cleansing of street surfaces, channels and gullies, particularly in side streets is very great. During last summer, rain again acted as a fairly efficient scavenger.

Effect of Meterological Conditions.—In previous annual reports the influence of meteorological conditions on diarrhœa and other diseases has been discussed. During 1904, the rainfall was 24·38 inches, the average amount for the 28 years, 1877-1904, having been 28·61 inches. It is clear therefore that although 1903 was a wet year (total in the year 33·03 inches), we have not yet come into the cycle of wet years which was anticipated. In the following table the cause of events since 1886 is shewn :—

Deviation from Average Rainfall (28·61 in.) of 28 years, 1877-1904.

Year.	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Deficiency of year ..	6·51	0·45	1·16	5·00	—	2·14	4·48	—	3·42	0·77	0·51	8·20	5·14	0·78	6·00	6 87	—	4·23
Excess of year ..	—	—	—	—	5·77	—	—	3·34	—	—	—	—	—	—	—	—	4·42	—
Accumulated Deficiency since last year of excess over average rainfall ...	—	6 96	8 12	13·12	—	—	6·62	—	—	4·19	4·70	12·90	18·04	18·82	24·82	31·19	—	—

The accumulated deficiency of rainfall has, as I have shewn elsewhere, an important bearing on the epidemic prevalence of diphtheria; but the immediate deficiency of rainfall in the months in which diarrhœa usually occurs, is the most important meteorological factor in diminishing its amount. In the following Table, a comparison is made between 1903 and 1904, in both of which years the diarrhœal mortality was much below the average.

In 1903 the four-feet earth temperature reached 56° F (Ballard's critical point), on the 1st of June, and in 1904, on the 12th of June; but no deaths from diarrhœa occurred in 1903 until the week ending July 4th, and none in 1904 until the week ending June 25th, and then none during the three subsequent weeks, although the earth temperature remained over 58° from the 26th June onwards. The same point is brought out in another way in the following Table. The average earth temperature during 20 weeks in July-October was almost identical in the two years, the deaths from diarrhœa during the same period being 44 in 1903 and 48 in 1904. The average of the maximum temperature of the air during each week was higher in 1904 by 4½ per cent., the aggregate rainfall was less by 60 per cent., the number of rainy days was fewer by 23 per cent. than in the corresponding period of 1903, while the excess of diarhœa in 1904 was over 9 per cent. This, it will be noted, is a comparison between two years in which there was comparatively little diarrhœa.

1903.

Week ending.	Weekly Deaths from Diarrhœa.	Highest Temperature		Rainfall.	
		Of Air in Shade.	Of Soil at depth of 4 ft.	Amount.	No. of days.
June 27	—	75 0	57 1	—	—
July 4	2	74·2	59·4	—	—
,, 11	—	79·2	61·2	0 02	1
,, 18	1	76·2	62 0	0·29	3
,, 25	2	70 4	62·4	2 44	6
August 1	3	68·4	62·4	2·19	6
,, 8	—	73·0	62·2	0·19	1
,, 15	1	69·4	62·4	1·64	4
,, 22	4	69·4	62·4	0·91	5
,, 29	9	69·4	62·2	0·53	4
September 5	4	73·2	62 6	0·27	2
,, 12	2	68·0	62 8	0·61	5
,, 19	4	67·8	61·4	—	—
,, 26	5	70·8	60 0	0·26	4
October 3	2	65·6	60·8	2·07	6
,, 10	1	64·8	60·8	0·83	6
,, 17	2	61·4	60·0	1 54	6
,, 24	1	57·4	58·5	1·20	6
,, 31	1	59·9	56·7	1·30	5
November 7	—	56 8	55·9	0·18	1
Weekly Average of 20 weeks.	..	68 5	60·6	0·83	3 5

1904.

Week Ending.	Weekly Deaths from Diarrhœa.	Highest Temperature		Rainfall.	
		Of Air in Shade.	Of Soil at depth of 4 ft.	Amount Collected in inches.	No. of Days on which Rainfall.
June 25	2	73·4	58·1	0·14	1
July 2	—	73·0	59·1	0·13	4
,, 9	—	77·2	60·4	0·01	1
,, 16	—	81·2	62·4	—	—
,, 23	1	80·6	63·8	0·08	2
,, 30	2	73·0	64·2	0·39	5
August 6	3	81·4	64·4	0·07	3
,, 13	3	82·6	64·4	0·09	2
,, 20	9	74·6	64·0	0·34	3
,, 27	3	69·2	63·2	0·53	3
September 3	4	73·2	62·4	0·73	5
,, 10	7	69·0	62·0	0·59	4
,, 17	3	69·6	61·4	0·72	3
,, 24	4	67·8	60·6	0·05	2
October 1	4	66·8	59·4	0·32	3
,, 8	—	68·2	58·3	1·21	5
,, 15	2	62·6	57·3	0·45	1
,, 22	—	64·6	56·5	0·47	4
,, 29	—	65·4	56·5	0·20	1
November 5	1	56·6	55·5	0·07	3
Average of 20 weeks.	...	71·5	60·7	0·33	2·7

Food of Infants and Diarrhœa.—As pointed out in former reports, milk is probably the most common vehicle for the infection of diarrhœa. An inquiry has been made in connection with every death from diarrhœa, and the results for two years are summarised in the following table. Of the 87 deaths from diarrhœa of infants under one year, seven were suckled, five were partially suckled, 28 were fed on cow's milk alone, ten on this along with patent or other farinaceous food, 28 were fed on condensed milk alone, and three on this along with farinaceous foods.

In order to ascertain the import of the above figures, it is desirable to know the percentage of infants throughout the town which are fed naturally or artificially. This is impossible for the entire town; but as a likely index of the conditions of feeding to which infants are subjected, particulars were entered by the house-to-house inspectors on their inspection sheets of the method of feeding of all infants in the poorer streets in the town. The information was obtained respecting 608 infants living in 5358 houses.

The results are set forth in the following table:—

Methods of Feeding Infants under One Year of Age in Brighton.

	A.—Census of 5358 Houses in house-to-house inspection.				B.—Infants who died from Epidemic Diarrhœa during 1903 and 1904.			
	Age in Months.				Age in Months.			
	0-3	3-6	6-9	9-12	0-3	3-6	6-9	9-12
I.—Suckled only	133	104	90	55	4	3	—	—
Ditto and farinaceous food	10	15	14	24	1	1	—	1
Ditto and cow's milk ...	5	3	1	2	1	—	—	—
Ditto and condensed milk	1	3	2	—	1	—	—	—
II.—Cow's milk only ...	6	14	11	12	5	17	5	1
Ditto and farinaceous food	3	15	19	19	1	—	3	6
III.—Condensed milk only ...	—	6	6	10	1	12	11	4
Ditto and farinaceous food	1	4	6	2	—	3	—	—
IV.—Patent food only mentioned	3	1	—	3	1	—	—	—
V.—Farinaceous food only mentioned, or "same food as parents ..	—	—	—	5	—	—	—	—
VI.—Unknown	—	—	—	—	1	2	1	1
	162	165	149	132	16	38	20	13

The full significance of these figures can be more easily recognised when they are thrown into percentages as in the following Table:—

PERCENTAGE OF INFANTS UNDER ONE YEAR OF AGE FED IN DIFFERENT WAYS.

	A.—In 5358 houses visited house to house (608 infants).	B.—Among Infants dying from Epidemic Diarrhœa in 1903-4 (87 infants).
I.—Suckled only	62·8	8·0
Ditto and farinaceous food ...	10·4	3·4
Ditto and cow's Milk	1·8	1·2
Ditto and condensed milk ...	1·0	1·2
II.—Cow's milk only	7·1	32·2
Ditto and farinaceous food ...	9·2	11·5
III.—Condensed milk only	3·6	32·2
Ditto and farinaceous food ...	2·1	3·4
IV.—Patent foods only mentioned ...	1·2	1·2
V.—Farinaceous foods only mentioned	0·8	—
VI.—Unknown	—	5·7
	100	100

Thus the deaths of suckled children were about an eighth of what ought to have occurred on the supposition of average distribution of diarrhœa; the deaths of those suckled and also having farinaceous food were about one third; the deaths of those having only cow's milk were over four times, and the deaths of those having only condensed milk were nine times as many as ought to have occurred on the supposition of average distribution of diarrhœa among infants fed in different ways.

A study of the preceding tables suggests that the number of infants "suckled only" is not so large as is there stated. It is probable that in some of these instances (especially the 55 infants aged 9-12 months), other foods were also given, though this information was not given to the inspectors. This probable error tends to an understatement of the superiority of breast-fed over artificially fed infants.

A further possible fallacy attaches to the preceding percentages, because they deal with all months of the first year of life in combination. There is difficulty in doing otherwise, because of paucity of data. In the following table a subdivision has been made into three monthly periods for breast-fed children. The table should be read as follows:—At ages under 3 months 82 per cent. of the infants in (A) 5,358 houses, visited house to house, were breast-fed. At the same ages only 25 per cent. of the infants (B) dying of diarrhœa in 1903-4 were breast-fed. At ages 3-6 months 63 per cent. of infants were breast-fed, only 8 per cent. of the deaths from diarrhœa were among breast-fed children, aged 3-6 months; while at ages 6-9 months and 9-12 months, in which 61 and 42 per cent. of the infants in inspected houses were breast-fed, no deaths from diarrhœa occurred among breast-fed infants at these ages.

Age.	Breast Fed alone.		Breast Fed with or without some other Food	
	Percentage of Total.		Percentage of Total.	
	Infants at this Age.	Deaths from Diarrhœa at this Age	Infants at this Age.	Deaths from Diarrhœa at this Age.
	A.	B.	A.	B.
Under 3 months	82	25	92	44
3-6 months	63	8	76	11
6-9 months	61	0	72	0
9-12 months	42	0	62	8

The table also shews the smaller protection from diarrhœa, which is obtained when breast-feeding is combined with hand-feeding.

The evils associated with the use of Condensed Milk for Infants.—Some years ago, before investigating the above facts, I was inclined to advise condensed as preferable to fresh cow's milk for infants during the hot summer months.

The preceding percentages give an effective quietus to this erroneous impression (which is widespread), and show the importance of subjecting it to an arithmetical test. Judging by our local experience, condensed milk alone is twice as dangerous as fresh cow's milk alone as food for infants; and condensed milk along with other foods is about 2½ times as dangerous as fresh cow's milk along with other foods.

This lethal capacity of condensed milk for infants might be due to one or more of several causes.—

(1). When we remember the enormous quantities of machine separated condensed milk which are sold, it is reasonable to surmise that the use of these for infants, rather than of full cream condensed milks may be a prominent cause of the mischief, by impoverishing the babies and making them more ready victims of any accidental infection. What are the local facts on this point?

During 1903, the only condensed milk which had been used in the feeding of the babies who died of diarrhœa were Nestle's alone 8 deaths, Nestle's with some other food, 3 deaths; Milkmaid Brand condensed milk, 1 death. These brands both contain their full complement of cream. The fact that no cases in which infants dying from diarrhœa were discovered to have been fed by separated condensed milk is strong evidence that Brighton mothers have recognised the important fact that their babies must have milk containing its cream.

The fact that condensed milk is usually heavily charged with sugar may favour diarrhœa. Probably it does so by attracting flies, if not also otherwise.

(2). Condensed milk may, as just indicated, favour the domestic infection which I have in past reports urged, is the chief cause of epidemic diarrhœa. It probably does this in part by attracting flies which bring excretal and other forms of contamination from closets, dust-bins, manure heaps, &c.; and in part by receiving dust from similar sources. The fact that a can of condensed milk lasts about two to three days, and during this time is usually uncovered, greatly favours these methods of contamination. Fresh cow's milk must during the summer be used on the same day as it is bought.

Condensed milk may possibly have an injurious influence in another way. It is a preserved food. We know how disorders of nutrition culminating in scurvy occur in those who are deprived for long periods of fresh foods. It may be that an analogous condition is caused by steadily giving condensed milk to the exclusion of fresh food, and that this influence plays a considerable part in the causation of diarrhœa.

The figures given in the preceding table show that fatal diarrhœa may occur in infants who are fed on nothing but patent foods, or are breast-fed. It is clear, therefore, that other foods than milk may convey the infection of diarrhœa ; or that the infection occasionally is not food-borne. These facts have an important bearing on the possible hypothesis that

(3). The microbes or their toxic products causing diarrhœa have been stored up in the milk from the time when it was first condensed. This hypothesis would bring condensed milk into line with cow's milk as a cause of diarrhœa. It would not explain the greater infectivity of condensed milk, unless we assumed that condensed milk is produced under dirtier conditions than our English new milk, and that the microbes of diarrhœa can withstand many months' incarceration in a treacly mass.

The balance, in my opinion, is strongly in favour of the view that both in relation to condensed and fresh cow's milk, the infection (as in infants fed by the breast or by patent food without cow's milk) has a domestic origin, and is due to domestic dirt. This does not imply that it is caused solely by careless nursing. I have been struck with the fact that many cases of diarrhœa have occurred in clean households in infants under the charge of mothers who were most anxious to do their best for their babies. There are many chances of infective dust getting into the babies' mouths. It may be derived from an artificial teat which has dropped on the floor. It may be blown into the house from imperfectly scavenged streets ; and it may, as already indicated, be carried by flies from even more objectionable quarters. In surgery immense advances have been made by the application of the principles of asepticism. No better means of preventing epidemic diarrhœa could be devised than the teaching of similar precautions to girls in the senior classes of our elementary schools, and in continuation classes.

10,000 copies of cards embodying the following particulars were distributed towards the end of June, in each house of the poorer streets of the town.

HOW TO PREVENT DIARRHŒA.

Town Hall, Brighton.

During each summer a considerable number of infants die in Brighton from Diarrhœa. Babies who are fed entirely from the breast nearly always escape. It is evident, therefore, that in the prevention of this very fatal summer disease, precautions as to food are most important.

Attention to the following points would save many infants' lives :—

1. Do not wean your infant during the hot months of July, August and September. To begin artificial feeding during hot weather is very dangerous. If the breast-milk is insufficient, it is better to give this alternately with cows' or condensed milk than the latter alone.

2. If feeding by hand is absolutely necessary, carefully follow these directions:—

A.—If Cows Milk is employed.

(*a*) The milk should be scalded or boiled when it comes into the house, and kept in the coolest place, protected from flies and dust.

(*b*) The infants' food must be prepared fresh each time (for particulars see over the page).

(*c*) All jugs or other utensils used for storing milk must be scalded out and kept absolutely clean. They should be covered, to prevent access of flies or dust.

(*d*) The feeding bottle must be thoroughly washed after each meal. It is best to use alternately two boat-shaped bottles without tubes, and the nipples of these should be turned inside out for cleaning. Tubes are always dangerous. If the bottle smells sour, something is not clean, and the infant will suffer.

B.—If Condensed Milk is employed. For directions see next page.

The feeding bottle must be cleansed in the same way, whether condensed or fresh milk is used.

3. Decomposing refuse, such as decaying vegetables, bones, fishheads, &c., is a fertile source of diarrhœa. It should be burnt, and not placed in the dustbin. Flies are bred in manure heaps and other decomposing refuse. They carry contaminating material about with them, and should not be allowed to have access to sugar or other foods. Fly-papers should be employed.

4. Scrupulous cleanliness of the house, especially of the rooms where food is stored, is most important. Dust in every form is dangerous to health, and for removing it wet cleansing is preferable to dry. Thus washing and scrubbing are safer means of cleansing floors, &c., than sweeping.

5. Report to the Sanitary Office, Town Hall, any smells or choked closet or drain. If any excess of flies appears to be caused by a neighbouring manure heap, complain at the Town Hall.

ARTHUR NEWSHOLME, M.D.,
Medical Officer of Health.

DIRECTIONS FOR PREPARATION OF INFANTS' FOOD.

For a Child aged	*Mix and then boil*	*For each meal*
Under 6 weeks	1 part fresh milk 2 parts water 1 teaspoonful cream	4 increasing to 6 tablespoonsful.
	Mix and then boil.	
weeks old	1 part fresh milk 1 part water 2 teaspoonsful cream	6 increasing to 8 tablespoonsful.
	Mix and then boil.	
From 3 to 6 months old	2 parts fresh milk 1 part water 2 or 3 teaspoonsful cream	12 to 16 tablespoonsful.

The infant should be fed at regular intervals only, at first every 2 hours, the interval being gradually increased.

The infant should be fed slowly.

If the milk as prepared above disagrees, freshly boiled barley water should be used instead of water.

The addition of cream is desirable because cows' milk is poorer in cream than mothers' milk, and because it is very often made poorer still by mixing it with separated milk before sale. Deficiency of cream causes rickets. A little sugar should also be added to the milk, but this must not be regarded as a substitute for the cream.

If fresh cream cannot be afforded, the doctor's advice should be taken, as to whether the baby should not have a teaspoonful of Cod Liver Oil once each day.

If condensed milk is employed, the following directions should be followed:—

1. Carefully read the label on the tin before purchasing, and never purchase machine-skimmed or separated milk.

   The most suitable brands for babies are those certified to contain unsweetened unskimmed condensed milk.

2. The tin should not be kept more than two days after being opened, and should be carefully protected from flies and dust.

3. The condensed milk should be mixed with water in accordance with the directions on the can for infants; the necessary dilution varying with age from 1 in 20 to 1 in 8. Condensed milk is usually given too concentrated. Don't use sweetened condensed milk. Nearly half this consists of sugar, which means that either the baby has to take too much sugar or gets too little of the milk.

ENTERIC OR TYPHOID FEVER.

The incidence of enteric fever, since notification came into operation, is shewn in the following table:—

	Number of notified cases per 100,000 of population.	Number of deaths per 100,000 of population.	Case-mortality Number of deaths per 100 cases notified.
1892	54	7	12·7
1893	65	13	19·5
1894	69	9	13·0
1895	72	12	16·6
1896	101	12	11·2
1897	94	17	18·1
1898	105	15	14·3
1899	148	20	13·7
1900	67	10	14·4
1901	37	5	13·0
1902	52	11	21·5
1903	31	3	10·3
1904	27	5·5	20·6

Of the 34 total cases which were notified, four subsequently proved not to be enteric fever, and in two instances the diagnosis was very dubious. Of the remaining cases, five were imported, *i.e.*, due to infection derived while the patient was living away from Brighton. Five were caused by personal infection, four of these occurring in one household secondary to a case whose method of infection could not be traced. Another case, apparently due to personal infection, followed a suspicious illness in another member of the same household. In two cases, no personal inquiries could be made, owing to the patients dying, but none of the ordinary sources of infection could be traced.

Two cases were, in my opinion, infected by mussels used as bait in fishing. The mussels in both cases were derived from sewage-contaminated sources. As sold in the town these mussels have mud on the shells which shews evidence of this contamination. Both these patients died, but in both instances it was denied that they ate any mussels, in one instance the patient and in another his mother stating this. Both were in the habit of fishing every fine Sunday, and both ate their luncheons on the pier or in a boat in the intervals of fishing. I am of opinion that they were infected by eating with unwashed hands. No other source of infection could be discovered. In one household there were six additional, and in the other four additional occupants, all of whom remained well. One patient was a drayman, the other a pork butcher's assistant. One case occurred in May, the other in November.

Three cases were attributable to infection from oysters.

(1) I.R., æt. 32, bought oysters twice weekly for some weeks before onset of attack of enteric fever, which were derived from Southwick. Onset of his attack December 1st. Most of the oysters were eaten by him, but three out of four other people in the same house who also ate oysters have been temporarily ill. The number of occupants of the house was seven, of whom two young children and the lodger have remained well. On or about the 20th Nov. Mrs. R. ate a few oysters; later in the evening she vomited severely, but was well next day. On Nov. 28th she again had oysters and gin, and vomited afterwards. Mrs. D,, living in same house, has occasionally eaten oysters; has recently had diarrhœa for a day, but cannot fix the date Mr. D. has had oysters, and has remained well. F. D., æt. 20, only had oysters once, on or about Nov. 20th. He had severe vomiting on the same night. The house is in good condition. No other source of infection discovered.

(2) H. W., æt. 23, an ex-sailor and son of an oyster vendor in V Street, failed with enteric fever on Jan. 20th. No history of eating oysters could be obtained; but I have no hesitation in classifying this case here and in disregarding the evidence of this young man and his father. Sanitary condition of house good.

(3) D. O., æt. 44, a boot repairer, very alcoholic, was admitted at a late stage of enteric fever. There were five other occupants of the same house. These have all remained well. Sanitary condition of house good. The patient on one occasion was treated to some oysters, which were derived from Southwick, at an interval which appeared to correspond with the incubation period, though no exact dates could be ascertained.

Four cases were attributable to infection from mussels.

(1) B.R. œt. 16 was admitted to Sanatorium June 20th, with enteric fever, on or about the 20th day of the disease. On the 7th May his father brought home a quart of mussels from Shoreham. These were eaten by the patient and his parents, after being steamed. Mrs. R. complained of the mussels having a tarry taste, and next day she had a severe attack of vomiting, but no abdominal pain or diarrhœa. Mr. R. remained well. B.R. on the evening of the day after taking the mussels, came home complaining of languor and headache, no vomiting or diarrhœa. On the following evening said that his "head had been bad" all day, and he had had pains in his neck. After this he was fairly well until early in June, and continued at work until 15th June. Mussels were also eaten on two or three occasions subsequent to the above date.

(2) M.N. æt. 20, was admitted to Hospital April 14th, on the 17th day of her attack of enteric fever. The house in which she lived was in good condition, and three other occupants of it remained well. She was employed at a laundry outside the borough, and she and other employées at the laundry purchased a bag of mussels from a hawker "about a month" before she fell ill. M.N. ate her share raw. Two other persons at the same laundry are said to have been very ill, but no exact particulars could be obtained.

(3) B.D. æt. 3, failed with enteric fever on May 12th. Twelve days previously Mrs. I, a lodger in the house, brought home a quart of mussels. These were eaten raw by Mr. and Mrs. I, elderly persons, who ate the largest number, Mrs. D. who ate one, and B. D. who ate two. The house was in a good sanitary condition, and, as in the other cases, no other sources of infection could be discovered. The mussels were bought in —— Lanes, and derived from Shoreham.

(4) Mrs. C., æt. 43, failed with enteric fever Oct. 16th, and died Nov. 7th. On Oct. 4th Mr. C. and a neighbour bought a quart of mussels for bait from —— Lanes. Some of these were brought home, and Mr. C. scalded them by pouring boiling water on them. Mrs. C. ate four; no one else ate any, the remainder being thrown away. Mr. C. also handled the mussels before they were scalded. Sanitary condition of this house good. Eight other persons in the house remained well. Five years earlier a daughter of Mrs. C. had enteric fever, due also to eating shell-fish. It was the fear excited by this fact which prevented the rest of the family from joining Mrs. C. when she ate the mussels.

One case was attributable to infection from cockles.

(1) D. C., æt. 9, failed with enteric fever Sept. 15th. About three weeks previously his father brought home a gallon of cockles and a handful of mussels from Shoreham. These were placed in a saucepan and allowed to get warm through. Mr. C. ate all the mussels. All the members of the family partook of the cockles, viz., Mr. C., Mrs. C., A. C. æt. 12, C. C. æt. 6, and E. C. æt. 20, and the above patient. On the same evening after eating the cockles, A. C. had diarrhœa and vomitting, and was obliged to keep away from school next day. Mrs. C. also had vomitting and diarrhœa on the day after eating the cockles. Mr. C., C. C., and E. C. remained well. D. C. had no symptoms of illness until Sept. 15th. Sanitary condition of this house good, and no other source of infection discoverable.

Two cases of enteric fever followed the eating of winkles, but although no other source of infection could be detected, the evidence connecting the cases with the eating of winkles is inconclusive. From inquiries made it appears that Brighton winkles nearly all come from Emsworth. They are cooked as follows:—The winkles are thrown into boiling water, the water is then allowed to come to boiling point. They are stated to be boiled for two or three minutes, never longer, or they would become hard. They are then placed in cold salted water.

In four instances no probable source of infection could be detected. In two of these houses the drains were defective. In another case ice-cream had recently been eaten. The fourth case was a girl aged 13, who could not give any definite account of her movements.

Administrative Measures re Enteric Fever.—The town is to be congratulated on the small amount of enteric fever. We have never had so few cases since the Notification Act came into force, either proportionately to population or absolutely. In this respect Brighton has secured full return for its pure water supply, its high sanitary condition, and its steady persistence in means for preventing infection.

It will be noted that the fatality was high in proportion to the number of cases. This was owing to the fact that several of the patients were topers, whom I always dread to have as patients, as they possess little recuperative power.

Of the total 19 cases having a local origin, three were, in my opinion, caused by oysters, four by mussels, and two by contamination from mussels used as bait. Two other cases were doubtful. Thus nine out of 19 cases were connected with sewage-polluted shell-fish.

It is not necessary again to summarise the steps which the Brighton Corporation have taken since March, 1894, in pressing forward legislation enabling them to prevent the sale of sewage-contaminated shell-fish in the Borough. They are summarised in a paper which I read at the Congress of the Royal Sanitary Institute of Glasgow, July, 1904 (Vol. XXV., Part III., 1904, *Journ. Roy. San. Inst.*), of which a copy has been sent to members of the Council.

Nor is it necessary to more than refer to the recommendations contained in the Fourth Report of the Royal Sewage Commission, which are partially summarised on p. 458 of the paper mentioned above. The powers suggested by the Royal Commission would not entirely meet the requirements of the case; but would do so, if supplemented by an additional clause, embodying the powers as to the sale of shell-fish sought in the Brighton Corporation Bill of 1896. At present we have neither of these powers; and are obliged to trust entirely to publicity, and to the repeated warnings which the continued experimentation on the *corpus vile* of the public compels us to give.

AN OUTBREAK OF GASTRO-ENTERITIS CAUSED BY OYSTERS.

In November last a serious outbreak of diarrhœa, &c., was caused among the guests at a supper party of thirteen persons. Of this party eight partook of oysters and were very ill; one had oysters and remained well. Four other members of the party had no oysters and all remained well. The supper was at 8 p.m. on the 8th of November. The onset of attack and its character are shewn below :—

	Taken ill.	Oysters Eaten.	Symtoms.
Mrs. J., Senr.	6 p.m., Nov. 10th	4	Diarrhœa and vomiting lasting 24 hours.
Mrs. D.	6 p.m., Nov. 10th	6 to 8	Diarrhœa, vomiting, intense pain lasting over a day.
H. D., æt. 17	Evening of Nov. 10th	6 to 8	Severe diarrhœa. Lost 4 lbs. weight in 12 days.
Mr. U.	Early on Nov. 10th	6 to 8	Diarrhœa and vomiting.
Mrs. U.	Ditto	6 to 8	
Mr. I.	On 10th	6 to 8	Great pain and diarrhœa.
Mrs. M.	8 a.m. on 10th	6 to 8	Diarrhœa, vomiting, severe pain lasting a day.
Miss D.	8 a.m. on 10th	4	Severe vomiting, slight diarrhœa, vomiting lasted three days.

As the other items in the supper were eaten by all the party, of whom five remained well, no suspicion attaches to them. The servants, also partook of nearly every item except the oysters, and remained well. The hostess of the above party ordered Whitstable oysters, but another kind was sent.

RHEUMATIC FEVER.

During 1904 the number of deaths registered as caused by this disease was six.

The number of cases of this disease annually admitted to the County Hospital gives a better idea of the varying amount of this disease, and the following Table is therefore inserted at this point :—

	Number of Admissions to the Sussex County Hospital of patients suffering from		Brighton. Number of Deaths from Rheumatic Fever and Rheumatism of Heart.
	Acute Rheumatism.	Sub-Acute Rheumatism.	
1892	28	12	—
1893	41	3	6
1894	42	10	9
1895	22	5	4
1896	37	5	9
1897	31	4	4
1898	19	17	3
1899	24	4	11
1900	60	8	9
1901	44	11	9
1902	47	12	5

SYPHILIS.

During 1904, the deaths of eight male and two female infants under one year of age, and of three men and two women, were returned is due to this cause. The death returns under this head are immensely understated.

ALCOHOLISM.

During 1904, nine deaths of men and seven of women were returned as caused by alcoholism or delirium tremens. The deaths of 10 men and 21 women were returned as due to cirrhosis of the liver.

REGISTERED DEATHS FROM CANCER.

Seat of Primary Disease.	Sarcoma.		Carcinoma.		Malignant Disease or Cancer.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.
Head, Face, Eye, Orbit, Nose, Ear	—	—	1	—	2	—	3	—
Jaws	—	1	—	—	2	1	2	2
Skin	—	—	—	—	—	1	—	1
Axilla	—	—	—	1	—	—	—	1
Mouth. Tongue, Lips	—	—	3	—	2	—	5	—
Neck, Throat, Tonsils, Larynx ...	—	—	1	—	7	—	8	—
Lung, Chest, Mediastinum, Heart	1	—	1	1	1	2	3	3
Œsophagus	—	—	4	1	3	—	7	1
Breast	—	—	—	14	—	13	—	27
Abdomen	—	—	—	2	2	1	2	3
Stomach and Pylorus	—	—	4	5	7	5	11	10
Liver and Gall Bladder	—	—	3	1	1	3	4	4
Peritoneum, Mesentery, Omentem	—	—	—	1	1	1	1	2
Pancreas	—	—	2	—	1	—	3	—
Spleen	—	—	—	—	1	—	1	—
Intestines (excluding Rectum) ..	—	—	2	3	1	5	3	8
Rectum	—	—	1	5	5	4	6	9
Uterus	—	—	—	13	—	13	—	26
Vulva	—	1	—	—	—	2	—	3
Pelves, Kidney, Bladder, Prostate Urethra, Penis	—	3	1	—	5	1	6	4
Spinal Cord	—	—	—	—	—	—	—	—
Groin, Leg, Foot	—	—	—	—	—	—	—	—
Parts unspecified	2	—	—	1	—	1	2	2
Total	3	5	23	48	41	53	67	106

The total number of deaths registered as due to the various forms of cancer was 173 last year, as compared with 143, 150, 132, 96, 135 and 114 in the six preceding years. Of the number returned as cancer, 31 occurred in the Workhouse, as compared with 20 in the previous year, 15 in the County Hospital as compared with 13 in 1903.

The death-rate from malignant disease for the three years 1902-4, averaged 1·24 per 1,000 of population. The population of Brighton is of an average age which is specially favourable to the incidence of cancer. To eliminate this factor, the following factor of correction ·8967 needs to be used. When this is done the above death-rate becomes 1·11.

TUBERCULAR DISEASES.

In the following table the registered death-rate from pulmonary tuberculosis or phthisis and from other tubercular diseases for a series of years is shewn :—

Mean Annual Death-Rate in Brighton from Phthisis (Consumption) and other Tubercular Diseases per 100,000 persons in Groups of Years.

	Phthisis.	Other Tubercular Diseases.
Ten years, 1861-70	295	98
Ten years, 1871-80	247	78
Ten years, 1881-90	193	74
Four years, 1891-94	150	82
Four years, 1895-98	149	63
Four years, 1899-1902	140	44
1903	145	52
1904	136	67

Owing to the fact that a larger proportion of the Brighton population than that of England and Wales is at the ages most susceptible to phthisis, a correction factor which is ·9267 is needed. When this is multiplied into the above death-rate, the corrected death-rate is 126.

There is some difficulty in determining to what extent the decrease in phthisis is partly due to the increasing tendency of practitioners to return deaths as due to "Tuberculosis" or "general tuberculosis," which would formerly have been entered as phthisis; and to what extent the increase in other tubercular diseases is due to the same cause and to changes in nomenclature. There is also no doubt that in some deaths regarded and registered as "tabes mesenterica" and entered below under the heading "alimentary tuberculosis" no tubercle would be found if an autopsy were made. For these reasons the following table is inserted :—

Number of Annual Deaths registered as caused by various forms of Tuberculosis.

	1898	1899.	1900.	1901.	1902.	1903.	1904.
Lung Tuberculosis ...	167	180	173	164	175	182	174
Brain Tuberculosis ...	32	18	22	33	27	25	21
Alimentary Tuberculosis	13	5	5	10	8	14	12
Other Forms of Tuberculosis	35	12	32	6	5	6	21
General and Ill-defined Tuberculosis ...				24	12	21	31
Total from all Forms of Tuberculosis ...	247	215	232	237	227	248	259

It will be noted that some increase is shewn in general and ill-defined tuberculosis. Taking tuberculosis as a whole there has been a decline, comparing 1871-80 with 1904 of 38 per cent. I am of opinion that much of this decline has been caused by increased treatment of consumptives in institutions like the Workhouse Infirmary and lunatic asylum (a very large proportion of the insane are tubercular), and not merely by improved social conditions as to food and housing.

In Brighton in 1875 of the total deaths 12·6 per cent. occurred in large public institutions; in 1904 of the total deaths 22·2 per cent. occurred in such institutions. In the three years, 1875-7 and 1878, the average annual number of deaths from tuberculosis in the Workhouse was 26, in the four years, 1901-04, it averaged 32. Thus although the death-rate from tuberculosis had declined from 3·25 per 1,000 in 1871-80 to 1·84 in 1899-1902, the proportion dying in the Workhouse had greatly increased. These facts have, I think, great significance as bearing on the value of hospital treatment of cases of consumption in preventing its spread. I showed in my annual report for 1901 that pauper consumptive patients spent on an average 316 days of their illness in the Workhouse.

NOTIFICATION OF TUBERCULOSIS OF THE LUNG (PHTHISIS).

Voluntary notification of Phthisis by medical practitioners was begun in January, 1899, no payment being then made for such notifications. Between that date and September 11th, when the new arrangement to pay for each case of phthisis notified, in private practice 2s. 6d., and in public practice 1s., came into operation, 70 cases were notified. The course of notification is indicated in the following Table :—

Year.	No. of New Cases Notified.	No. of Cases Re-notified:	New Cases Notified per 100,000 of Population.	No. of New Cases Treated in Sanatorium.	No. of Annual Deaths from Tuberculosis.
1899	111	—	92	—	215
1900	105	—	85	—	232
1901	153	9	124	—	237
1902	224	52*	179	31 (from May)	227
1903	316	82†	251	98	248
1904	363	85‡	286	130	259

The steady growth of notification of Phthisis indicated in the above Table is most gratifying. Its satisfactory character will be better appreciated when the notifications are compared with those in Sheffield, which occupies the unique position of having in operation by means of a local Act the compulsory notification of cases of Tuberculosis of the Lung since November 1st, 1903. In that city in 1904, 1,217 new cases were notified, which means 281 per 100,000 of population as compared with 286 in Brighton. Thus compulsory notification in its first complete year of operation in Sheffield, without the advantages of Sanatorium treatment, has not secured any greater ratio of notifications to population than in Brighton in which there is no compulsory notification, but in which ten beds are provided for consumptive patients and over 100 patients treated each year.

Doubtless this proportion will increase in Sheffield when the compulsory clauses are better known; and a compulsory system possesses the great advantage of relieving doctors from the difficulty which many of them feel in Brighton, that they are not free to report their patient's illness unless this is imposed on them as a statutory duty. In Brighton, we have only hitherto had notified to us the poorer patients, who happily are the patients on behalf of whom we can effect most good. The number notified has been greatly increased by the inducement of Sanatorium treatment.

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* 17 of these had been originally notified prior to, and the rest in, 1902.
† 37 ,, ,, ,, ,, , 1903.
‡ 36 ,, ,, ,, ,, ,, 1904.

Details as to Notifications.—The table on page 60, gives comparative statistics for six years. Re-notificatons occurred in 85 instances in 1904, 69 cases being re-notified once, 12 twice, and 4 three times during the year.

During the year, 455 notifications of consumption were received, 93 in private practice, 233 in public practice, 82 reported by relieving officers, 13 by relatives, 36 by the Master of the Workhouse, five by the Medical Officer of Health, and three found when enquiring respecting other cases. The fees paid for notification were £24 16s. 6d.

Stage of Disease at which Notification occurs.—One case was notified after death, 13 less than a week before death, 15 between 1 and 4 weeks before death, 12 from 1-2 months, 5 from 2-3 months, 3 from 3-4 months, 10 from 4 to 6 months, and 9 from 6 to 12 months before death. In accordance with the circular letter to practitioners, the notification of moribund cases is deprecated, and fees are not payable for such cases. Of 363 total cases notified for the first time during 1904, 50·3 per cent. are still alive (February 22nd, 1905) as compared with 70 per cent. of the cases notified in 1903, on March 3rd, 1904.

Proportion of the Disease imported.—It necessarily follows from the fact that Brighton is a health resort, that it receives a large number of inhabitants in failing health, not only among the well-to-do, but also among small shop-keepers and the industrial classes, who hope under the favourable conditions of Brighton to regain their health. The fear that this already existent drift of consumptives into Brighton will be increased by adding to our present accommodation at the Sanatorium for consumptives is entirely unfounded, as the residential limit of two years, which has hitherto been strictly imposed and will be continued, makes it impracticable for a consumptive to come to Brighton for Sanatorium treatment at the expense of Brighton rates or charities.

Of the 174 deaths from phthisis in 1904, the disease was already present in 26 when the patients came to Brighton; eight of these patients were notified before death.

Of the 363 notified cases, 39 in addition to the above eight fatal cases, were already ill when they came to Brighton. Thus the total known imported cases in the year was 65.

Of the 85 deaths from other tubercular diseases, 10 were definitely ill on arrival in Brighton.

Thus, in about 15 per cent, of the deaths from consumption and 13 per cent. of the notified cases of this disease, the illness was acquired elsewhere than in Brighton.

Of the 363 cases notified during last year, 53 died at home and 13 in the Workhouse Infirmary (as well as 16 additional unnotified cases).

Notifications of *changes of address* were received respecting nine patients, enabling prompt disinfection to be done. In 19 other instances notified patients removed once, and in three instances notified patients removed twice during the year, and disinfection was done, but owing to lack of notification not always promptly.

Disinfection.—In 171 notified cases houses were disinfected after removal of the patients to the Sanatorium or elsewhere. In 127 instances rooms, and in five instances the whole house, were sprayed with formalin; in one instance an office. In 11 instances walls of rooms were stripped, cleansed and ceilings whitewashed, and in 21 instances this was done for the whole house. In 33 instances the rooms were thoroughly cleansed by the tenant; in 17 instances the bed ticks, &c., were washed by the tenants, and in 103 instances the bedding was disinfected by saturated steam under pressure.

After deaths from Phthisis and other tubercular diseases disinfection was carried out in 232 houses. In 147 cases rooms were sprayed, and one office was sprayed. In 69 instances rooms, and in six cases the whole house, were stripped, cleansed and whitewashed. In 15 cases the bedding was burnt, in 65 the bed ticks, &c., were washed, and in 123 the bedding was disinfected by steam. Personal apparel was similarly treated.

The following defects were found and remedied in connection with visits to cases of and deaths from phthisis and other tubercular diseases :—

Cleansing and whitewashing required	33
Dirty houses	24
House unfit for human habitation	1
Overcrowding	18
Windows not opening properly	15
Fowls kept so as to be a nuisance	3
Defective roof or rain water guttering	9
Foul or choked closets	3

Choked drains	1
Defective flushing apparatus to w.c.	11
Broken closet pans	2
Defective paving	10
Defective sinks	2
Defective or no dust bins...	15
Other nuisances	22

Examination of Expectoration.—The value of notification is great in proportion to the earliness of the stage of disease at which it is obtained. To facilitate early recognition of consumption, the Town Council has, since 1897, provided facilities for examining expectoration for tubercle bacilli. By this means consumption is frequently recognised earlier than it would otherwise be. It is important that this means of recognising consumption should be utilised even more extensively than at present, especially for working men, whose consumptive condition is frequently not recognised until there is no hope of securing a return to a fair measure of health.

Table showing the Number of Specimens of Sputum examined in the Municipal Laboratory.

Year.	Town.	Sanatorium.
1897-98 (14 months)	21	—
1899	47	—
1900	86	—
1901	125	—
1902	146	23
1903	227	111
1904	284	188

Sanatorium Training and Treatment of Consumptives.

The Table on page 60 shows the number of cases who have had on an average a month's training Sanatorium treatment each year. Each year I become more convinced of the great value of this means of educating the patients in the practical management of their disease, and of the importance of continuing to keep in the forefront the effort to train the patients, which is even more important from the public standpoint than their cure. I should be thankful to be able to keep a considerable proportion of the patients for three months instead of one, had we sufficient beds for this purpose, and I hope these will be provided during the present year. If with this is combined the provision of beds for a certain number of advanced cases, our arrangements for the reduction of this terrible "white scourge" will be approximately complete.

But even on the present basis, not only is the public greatly benefitting but also the patients themselves. In the following table I have summarised the experience of the patients who have received treatment in the Sanatorium up to the end of 1903, that is, of those patients in whom at least 14 months have elapsed since they left the Sanatorium. It should be added that by first stage is meant fairly early disease, by second stage that some consolidation of one or both lungs has occurred, and by third stage that cavities have formed in the lungs. We have always accepted patients in the third stage, where it was considered that their temporary treatment would serve to diminish risk to their relatives or fellow workmen.

Summary of Sanatorium patients admitted up to December 31st, 1903, showing the number who have died and the condition of those surviving on February 20th, 1905; the patients being classified according to the stage of the disease in which they were admitted.

Stage of Disease.	Still at Work or keeping Well.†	Rather better.	*In Statu quo.*	Losing weight and having Cough.	Very ill.	Died.	Total.
1st Stage	15	1	—	2	—	1	19
2nd ,,	18	2	5	8	1	14*	48
3rd ,,	3	—	—	1	1	21	26
	36	3	5	11	2	36	93

In addition to the above total, 24 patients have moved to unknown addresses and have been lost sight of. The total number of cases treated up to December 31st, 1903, was 122, but this also included five cases which turned out not to be phthisis.

It is satisfactory that of the 19 admitted at an early stage 16 are better or at work; of the 48 admitted in the middle stage of the disease 20 are better or at work, and of the 26 admitted at an advanced stage three are still at work.

A copy of my Special Report on the provision of additional means for the treatment of Consumptive Patients is given on page 107.

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† The majority of those in this column who were stated to be "keeping well" but not engaged in work are wives who do house work.

* One of these 14 died of an intestinal disease.

C.—WORK OF MUNICIPAL LABORATORY.

The work of this laboratory commenced in November, 1897. The work in connection with it has steadily increased, as shewn by the following Table :—

		1897-8 (14 mths.)	1899	1900	1901	1902	1903	1904
Widal Grüber Test for Typhoid Fever		164	153	95	88	103	106	98
Bacteriological Diagnosis of	Diphtheria ...	414	2033	2191	2962	2537	3559	3107
	Phthisis	21	47	86	125	169	338	472
	Other Diseases ...	2	—	—	—	—	—	—

Owing to the decline of diphtheria fewer specimens of this disease were examined than in 1903, but a larger number in connection with each individual case. Of the town swabs examined for doctors, or for the Medical Officer of Health (contact cases) 196 were positive, 815 negative, 38 doubtful, and in 26 there was not growth or it was overgrown with saprophytes. Total 1,075.

From the patients admitted for diphtheria 186 specimens were positive, 174 negative, 15 doubtful and 8 no growth or contaminated ; total 383. Many of the negative results were positive when second swabs were taken.

From the convalescent diphtheria patients 325 specimens were positive, 987 negative, 59 doubtful, and 72 no growth or contaminated; total 1,443. The rule was to obtain three consecutive negative swabs from each patient before sending the patient home.

The scarlet fever patients were similarly swabbed on admission or whenever an intercurrent sore throat occurred. This has been an efficient safegauard against the accidental introduction of diphtheria into the scarlet fever wards. During last year 16 swabs from scarlet fever patients showed diphtheria bacilli, 11 were doubtful, 172 were negative, and in 7 either there was no growth or this was contaminated ; total 206. All cases suspected of mixed infection were separately treated. Specimens of blood sent in by doctors for the detection of enteric fever were examined in 94 instances, viz., 19 positive, 67 negative, and 8 doubtful. Four specimens were examined from in-patients at the Sanatorium: 2 negative and 2 positive.

The number of specimens of sputum examined for practitioners was 284, viz., 80 positive, and 204 negative. The number examined in connection with patients admitted for open-air treatment, 59 were positive, 40 negative; when leaving the Sanatorium 47 positive, 42 negative.

Examination of Water Supplies. Early in 1904, the Waterworks Committee decided on my recommendation to have regular quantitative bacteriological as well as chemical analyses of the water from the different sources supplying the area of the Brighton supply. For this purpose it was arranged that I should be provided with a medical assistant at a salary after the first six months of £150 per annum. This arrangement has worked well, the assistant also acting as house physician at the Sanatorium, and visiting notified cases of consumption at their homes.

Careful records are kept of all the analyses made of the water supply, and we shall thus be able to have a long series of standard analyses for reference, and to check any possible departure from normal conditions. It need hardly be said that the water in use from each of the sources of supply is extremely pure. The number of analyses has been as follows:

Number of Samples examined.	Chemically.	Bacteriologically.
Lewes Road	77	33
Goldstone	21	11
Mile Oak	13	10
Shoreham	13	9
Patcham	13	13
Total	137	76

Hardness of Brighton Water. The remark so frequently made that Brighton water is exceptionally hard, indicates the desirability of an exact statement on this point.

The average hardness of the three most recently acquired sources of water supply is: Shoreham 14·0, Patcham 13·1, Mile Oak 13·7 grains per gallon.

The corresponding figures for the Metropolis are as follows : —

Average of all the Metropolitan Water	Aug., 1904.	Feb. 1905.
Supplied from the River Thames	13·4	16·1
Ditto from the River Lea, &c.	13·4	17·3
Ditto from deep wells (Kent)	20 4	21 7

It is clear that Brighton water is on the average considerably less hard than that supplied in the Metropolis. The greater part of th hardness is removed by boiling.

D.—THE BOROUGH ISOLATION HOSPITALS.

	Number of Patients suffering from the following Diseases :—											Fulking Grange.
	Scarlet Fever.	Enteric Fever.	Measles.	Diphtheria.	Small Pox.	Small Pox Contacts.	Erysipelas.	Chicken Pox.	Phthisis.	Other Diseases.	Total in Sanatorium	Small Pox.
Remaining in the Sanatorium, Dec 31st, 1903 ...	20	4	—	31	—	—	—	—	8	—	63	--
Remaining in Fulking Grange, Dec. 31st, 1903 ...	—	—	—	—	—	—	—	—	—	—	—	—
Admitted during 1904 ...	145	26	8	261	2	1	5	4	137	3	592	1
Total number treated 1904	165	30	8	292	2	1	5	4	145	3	655	1
Number discharged during 1904	140	24	8	228	2	1	4	—	134	—	541	1
Number who have died in Sanatorium in 1904 ...	1	5	—	18	—	—	1	—	1	3	29	—
Number who have died in Fulking Grange in 1904 ...	—	—	—	—	—	—	—	—	—	—	—	—
Remaining under treatment on Dec. 31st, 1904	24	1	—	46	—	—	—	4	10	—	85	—

Of the above patients, one patient with Scarlet Fever was admitted from Southwick; and two with Diphtheria from farms outside Brighton. The total also includes one case of Phthisis (ward assistant), two of Scarlet Fever (nurses), and a case of Diphtheria (house physician).

The children of inhabitants of the Borough are not charged, but £272 was charged for the maintenance of other patients in the Sanatorium, £26 13s. 10d. for Poor Law cases, and £5 3s. 6d. for disinfection.

The following table prepared by the Borough Accountant shows the expenditure for the year on the two hospitals. The total number of weeks spent by all the patients in the Sanatorium was 3,167, and at Fulking Grange, 3, as compared with 3,405 in both institutions in 1903, and 2,890 in 1902. Of the total in 1904, Scarlet Fever patients spent 936 weeks, Diphtheria patients 1495 weeks, and Phthisis patients, 551 weeks.

COUNTY BOROUGH OF BRIGHTON HOSPITALS.

Expenditure for the Year ended 31st December, 1904.

Expenditure.—Sanatorium Bear Road.

										Corresponding Amount, 1903.		
				£	s.	d.	£	s.	d.	£	s.	d.
Salaries and Wages—												
A. Newsholme, Medical Officer	£150	0	0							150	0	0
Medical Officer's Assistant ...	21	0	0							42	0	0
Matron ...	90	0	6							79	19	0
Nurses and Servants ...	1053	3	3							997	8	3
Labour (Gardens)	126	6	10							123	8	8
				1440	10	7						
Repairs, including Donkey Pump, £23 10s. 0d.				175	1	3				148	10	5
Fuel				716	2	11				485	10	6
Electricity, £163 8s. 10d.; gas, £76 12s. 10d.				240	1	8				245	14	1
Water				50	0	0				62	10	0
Sundry household goods, furniture and repairs				319	3	11				233	17	2
Provisions...				1546	4	3				1505	2	5
Drugs and medical sundries ...				275	4	10				348	18	5
Surgeon's fees (special cases) and hire of extra nurses ...				35	10	0				26	1	6
Uniforms for matron, nurses and servants, hospital garments, linen, flannel, and drapery goods				116	15	8				109	17	4
Carried forward ...				4914	15	1				4558	17	9

	£	s.	d.				£	s.	d.
Brought forward ...	4914	15	1				4558	17	9
Printing, advertising, stationery and stamps	33	0	6				35	2	0
Rates, taxes and insurance* ...	493	16	4				179	14	1
Travelling expenses, cab hire, carriage, telegrams and sundries	15	2	0				16	3	0
Garden seeds, manure, &c. ...	49	17	4				29	6	5
Telephone rent	6	13	3				12	10	0
Other items	—						37	16	0
				5513	4	6			

The Grange, Fulking.

				£	s.	d.				£	s.	d.
Wages—												
Caretaker ...	72	16	0							72	16	0
Nurses and Servants ...	5	8	2							31	0	0
				78	4	2				—		
Repairs				5	18	11				—		
Fuel				20	8	10				13	4	6
Sundry household goods ...				10	6	2				2	9	9
Provisions				6	7	6				37	4	0
Travelling expenses, cab hire, &c.				5	3	7				—		
Rates, taxes and insurance ...				9	5	2				16	9	2
Telephone rent				35	0	0				—		
Miscellaneous expenses				—						84	3	3
							170	14	4			
							£5683	18	10	£5126	15	11

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* This includes District and Library Rate, which have not previously been charged. Hence the increase from £179 14s. 1d. in 1903.

E.—PUBLIC ANALYST'S REPORT.

Report on samples analysed under Sale of Food and Drugs Act, during the year 1904.

Samples of	Number of Samples.	Adulterated.	Percentage of Adulteration.	Nature of Adulteration.
Milk	291	33	11·34	Abstraction of fat. Addition of water, preservatives or coal tar colours.
Butter	63	3	4·76	Addition of margarine. Excess of water.
Milk-blended Butter ...	1	—	—	
Margarine ...	16	—	—	
Lard	17	—	—	
Condensed Milk	9	—	—	
Cheese	16	—	—	
Infants' Foods...	4	2	50·00	See page 74.
Spirits	16	2	12·50	Addition of water. Addition of silent spirit.
Cocoa	2	—	—	
Sausages ...	3	2	66·66	Addition of preservatives.
Preserved Peas	3	2	66·66	Presence of copper salts.
Sweets, Sugar, and Preserves	9	—	—	
Flour	3	—	—	
Condiments ...	30	1	3·33	Pepper containing rice starch.
Drugs	18	2	11·11	Nitrous ether deficient in strength. Tincture of iodine, deficient in iodine.
1904—Total ...	501	47	9·38	
1903— „ ...	507	92	18·14	
1902— „ ...	502	114	22·70	
1901— „ ...	490	93	18·97	

MILK.

During the year 1904, 291 samples of milk were analysed, of these only 17 or 5·84 per cent. failed to reach the standards of the Board of Agriculture.

The number of samples collected, the proportion of watered and skimmed, and the average percentage of fat during 1904, as compared with the four previous years is as follows :—

Total samples of milk collected, and proportion of watered and skimmed from 1900 to 1904.

		Total Samples.	Below Standard.	Per cent. below Standard.	Average per cent. of Fat.
Weekday Samples	Wholesale, 1900-1903	447	18	5·18	3·71
	„ 1904 ...	39	1	2·56	3·51
	Retail, 1900-1903 ..	471	69	14·64	3·47
	„ 1904	216	15	6·94	3·64
Sunday Samples	Wholesale, 1900-1903	24	—	—	4·02
	„ 1904 ...	—	—	—	—
	Retail, 1900-1903 ...	194	26	13·40	3·50
	„ 1904	36	1	2·77	3·63

If we take into consideration all forms of adulteration, *i.e.*, water deficiency of fat, colouring matter (other than annatto) and preservatives, the figures are as follows:—

		1904.			Percentage of Adulterated Samples. 1901-1903.
		Total Samples.	Adulterated.	Percentage of Adulterated Samples.	
Weekday Samples	Wholesale	39	1	2·56	7·10
	Retail	216	24	11·11	38·35
Sunday Samples	Wholesale	—	—	—	—
	Retail	36	8	22·22	50·00
	Total	291	33	11·34	27·36

From an examination of the above Tables it may be seen that all forms of adulteration have diminished to a very marked degree.

The addition of coal tar dyes to milk shows a striking decrease, this I believe is at least partly due to the attention called to this form of adulteration in my report of last year.

There is one form of adulteration which is not included in the above Tables, and which is still almost universally practised by the *retailers* of milk. I refer to the addition of annatto. During the last quarter of 1904, every milk was specially examined for annatto. No less than 77 per cent. of the retail samples contained this dye, which could not be found in a single wholesale sample.

I have not considered this substance as a serious adulterant because (1) I believe it to be harmless, (2) no prosecution would be likely to be successful based only on the presence of annatto, (3) it has been used for many years in butter, milk and cheese. That the purchaser may reasonably expect a milk free from annatto I quite agree, and that milk vendors should be encouraged to supply milk free from any additions is also desirable. The only way at present is for purchasers to demand a milk free from colouring matter, and if they do not get it, to deal with somebody else. The simplest household test for annatto is to let a glass full of milk stand over night, so that the cream is thrown up; a milk free from colouring matter will then be quite white, the yellow colour being due entirely to cream.

Brandy.—Various prosecutions have taken place in different parts of the country against vendors of brandies composed either entirely or in part of "silent spirit." With regard to Brandy two questions arise, first, What does the term brandy mean? secondly, How far with our present knowledge of the chemistry of brandy can we detect the presence of "silent spirit?"

With regard to the first question, it has been held by some authorities that the term brandy can only be applied to a product derived entirely from the grape. On the other hand, other authorities of equal weight, and with as much reason hold that brandy, as we now understand the term, may be a mixture of grape spirit with spirit from other sources, and that just the same change has come over the brandy industry as has come over the whisky and beer industry. That is to say nobody now expects to get a pure malt whisky or a beer derived only from malt and hops unless he asks for it. So, it is held, he does not expect to get a pure grape spirit unless he asks for some special brandy such as "Grande Champagne Cognac." Until an appeal case on the question is decided, it is obvious that the matter must remain open.

With regard to the second question, there are great difficulties in the way of the analyst who seeks to establish the presence of small quantities of silent spirit. In the first place we have few authentic analyses of brandies of known origin. There are hundreds of analyses of brandies published by König, Girard and Cuniasse, Rocques, Vasey, Allen, Schidrowitz, and others; but in none of these cases have we any absolute guarantee that some at least of these brandies were not adulterated. To attempt to set up an absolute standard from such analyses as these would be like trying to set up a standard for milk based upon samples sent in by farmers, some of which would probably be watered or skimmed. Until we have a collection of analyses of samples prepared under supervision and taken at the still head, the attempt to set up a hard and fast standard is in my opinion futile. On the other hand, there is no difficulty by a by a combination of analysis with *dégustation* in distinguishing a genuine Cognac brandy or Marc brandy from a British brandy or a grape brandy containing a large amount of grain spirit, and it must be remembered that the prosecutions which have taken place have all been for these large admixtures. The only sample of brandy which I have returned as containing silent spirit was a sample about which there could be no doubt, containing as it did only traces of the usual non-alcohol constituents of brandy. One other sample containing 70 parts of ether per 100,000 parts of absolute alcohol, I have not felt justified, for the reasons given above, in returning as adulterated.

INFANT FOODS.

During the year nine samples of condensed milk and three samples of "infants and invalids" foods were analysed. The composition of infants' foods and their suitability for the nutrition of infants during the first six months of life, is a matter of the greatest importance. Improper feeding is one of the commonest causes, directly or indirectly, of infant mortality, and may affect the physical condition of those that survive, through the whole of life.

We hear much of the ignorance of the poor as to infant feeding, but it is a regrettable fact that this ignorance is not confined to those who occupy a humble position in life. Yet is this a matter for no surprise when we find the country inundated with prepared infants' foods, of such composition as to satisfy scarcely a single requirement of the infant organism. The tins and bottles of these preparations being covered with testimonials from the leading medical journals of this country, and from scientific men holding important official positions. The amount and quality of food required by infants under 6 months of age has not received in any country the attention which it deserves. Forster,[1] Bryant,[2] Jaffa,[3] and others have made experiments with infants, but the results can be of little practical value, as the food given to the child under observation was not entirely its natural food. Thus in Jaffa's experiments the children were fed on cows' milk, mixed with cream and sugar in one case, and on cows' milk, sugar and a patent food in another case, and it is interesting to note that he records the fact that the infants were not always in satisfactory health.

Camerer[1] made observations on his own children fed on human milk only, and Oppenheimer[2] has collected data based on this factor only. Without going into further details, which would here serve no good purpose, we shall not go far wrong if we accept the figures given by Oppenheimer on the authority of Feer, for the quantity of human milk to be given to a child from birth to the sixth month.

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1. Forster. Ztschr. Biol. 9, 1873.
2. Bryant. Connecticut Storrs Sta. Report, 1896.
3. Jaffa. California Agr. Sta. Report. 1896-98.
1. Camerer. Zeitschr. Biol. 33, 1896.
2. Oppenheimer. Natürlicle and Künstlich Säuglingsernährung (Wisbaden, 1904).

If we accept the average composition of human milk to be as stated in Table (II.), the following table (I.) will represent with fair accuracy the weight of a healthy child, the milk drunk, and the fuel value of this milk, from birth to the six month.

TABLE I.

Age of Child.	Weight of body in kilogrames.	C.C. of Human Milk drunk in 24 hours	Fuel value. Calories.
1st week	3·41	291	156
2nd week	3·55	549	294
4th week	3·98	652	349
2nd month	4·39	750	401
3rd month	5·16	810	433
4th month	5·86	880	471
5th month	6·52	920	492
6th month	7·08	970	519

With regard to the fuel value, it may be explained that in comparing foods, it is usual not to take the per cent. of fat, proteid and carbohydrate contained in the food, but the amount of heat that the food would yield if the energy locked up in it was completely set free either inside or outside the body. Thus one gramme of fat yields 9·3 Calories, one gramme of proteid or carbohydrate 4·1 Calories—one Caloric being the amount of heat which is required to raise the temperature of one kilogramme of water one degree centegrade.

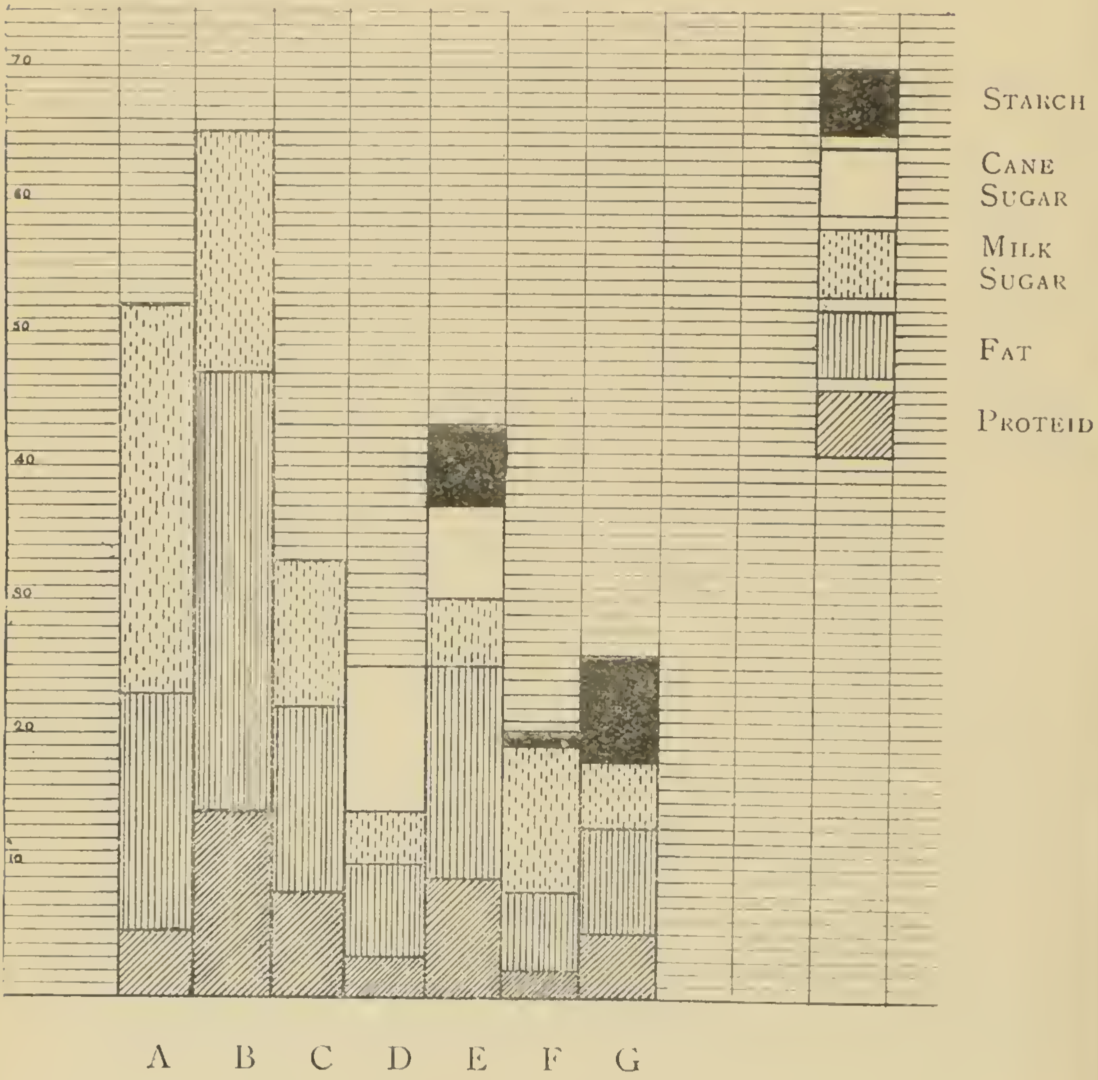
Now we are in a position to consider the value of condensed milk, cows' milk, and the other infants' foods.

Table II. gives the composition and fuel value of the various foods.

Table III. gives the composition of the foods as diluted for use, the dilution being carried out exactly as directed on the labels with water in the case of condensed milk, and milk in the case of foods, No. 1 and 3. Food No. 3, is one of the best known infant foods in the country.

It will at once be seen that all the foods with the exception of cow's milk show a serious deficiency in most constituents, and that many constituents are such as are never found in human milk.

This will be more clearly seen if we put the composition of the diluted examples in the form of a diagram, the heights of the columns representing energy per 100 grammes. It may be argued that with these foods the right amount of nutriment may be obtained by increasing the quantity of liquid taken. It must, however, be remembered that a child cannot drink more than a certain amount, or, if it does, the extra work thrown on the blood vessels and kidney in excreting a large volume of fluid may have very serious consequences.



On theoretical grounds, undiluted cow's milk would appear to be the best substitute for human milk, and in practice it has been found so. (Always remembering the fact that cannot be too often repeated, that human milk is the best, and that there is no real substitute for it). Infants apparently tolerate the rather excessive amount of proteids in cow's milk very well, *if they are trained to take it*, by first giving it mixed with water and gradually diminishing the quantity of water until pure milk is given, and giving fairly long intervals between the meals.

Cow's milk is always contaminated with micro-organisms, and on this account the practice has arisen of *sterilizing* the milk. Sterilized milk is unsuitable for infants as the qualitative composition of the milk is altered in many ways, changes taking place in the proteids, fat, milk, sugar, and salts. Some municipalities having "milk depôts" supply sterilized milk diluted with water; a practice not to be recommended. The disadvantages of sterilized milk may be got over by the use of "pasteurized milk," the majority of micro-organisms being killed, and the milk been altered in qualitative composition not at all, or at most very slightly. There are several forms of apparatus now on the market for pasteurising milk, which can be obtained at a small cost, the milk being pasteurized in small quantities and drunk from the bottle without contact with air. Excellent results have been obtained by this method.

With the poor the question of price is an all important one. That milk is the cheapest food will be evident from the following facts based on the analyses in Table (II.) :—

Milk ...	One unit of	money	purchases	33	units	of energy.
Food No. 3	,,	,,	,,	25·6	,,	,,
Food No. 1	,,	,,	,,	12·7	,,	,,
Food No. 2	,,	,,	,,	7·0	,,	,,

It must be remembered that part at least of the energy of these foods (starch) will not be available to an infant.

I am aware I have in the above note only touched the outskirt of a subject which is of great importance, but I have said enough perhaps to draw attention to the uselessness of many of the infant foods on the market. I may be accused of basing my conclusions on insufficient evidence, but I may state in my own defence that I have analysed in my laboratory during the past year all the leading infant foods on the market, and after having done so I still feel justified in making the above remarks.

Explanation of Diagram, page 76.

The total height of each column represents the percentage energy derived from the food as diluted for the use of infants; the height of the various sections represents the energy derived from proteids, fat, &c.

A. is human milk. B. Cows' milk.

C. Cows' milk and equal volume of water.

D. Sweetened condensed milk.

E. Infants' food No. 1 F. Infants' food No. 2.

G. Infants' food No. 3.

TABLE II.—*The percentage composition of Condensed Milk, Human Milk, Cows' Milk and certain Infant Foods.*

	Fat.	Proteids.	Cane Sugar.	Milk Sugar.	Starch.	Ash.	Energy.		
							Total.	From Fat and Carbo-hydrates.	From Proteids.
Condensed Milk	11·42	9·43	38·57	12·89	—	1·93	355·85	317·18	37·66
*Infants' Food, No. 1	0·40	13·1	7·95	7·96	63·66	0·72	383·66	329·95	53·71
,, ,, ,, 2	9·20	17·9	56·63*		8·0	4·3	423·93	350·54	73·39
,, ,, ,, 3	0·62	14·5	4·23*	—	75·28	1·3	385·30	335·85	49·45
Human Milk	2·1	1·5	—	6·8	—	0·2	53·51	47·41	6·15
Cows' Milk	3·5	3·4	—	4·75	—	0·75	65·96	52·02	13·94

*Soluble Carbohydrates.

TABLE III.—*Composition of above Foods as diluted for the use of Infants.*

	Fat.	Proteids.	Starch.	Other Carbo-hydrates.	Total.	Energy.	
						From Fat and Carbo-hydrates.	From Proteids.
Condensed Milk	0·85	0·67	—	3·67	25·34	22·65	2·69
*Infant Food, No. 1 ...	1·75	2·03	1·57	2·75	42·36	34·04	8·32
,, ,, ,, 2 ...	0·46	0·89	0·40	2·83	21·21	17·52	3·69
,, ,, ,, 3 ..	0·86	1·21	1·87	1·28	25·87	20·91	4·96
Cows' Milk and Water ...	1·75	1·70	—	2·37	32·90	26·00	6·90

*No. 1 is Hunter's; No. 2, King's; No. 3, Neave's Food.

However much an analyst may disapprove of a food, it is impossible for him to certify it to be adulterated, under the Sale of Food and Drugs Act, unless it contains some active poison, or unless some constituent is absent which is said to be present, or *vice versa*. The two samples I have returned as adulterated were both of the same brand, and are referred to in this report as Infants' Food No. 2. The label on this food states, "That the food is practically identical with, and contains all the life-building constituents of mother's milk, &c." Further "It contains everything that is necessary for bringing up the Infant from birth until it is old enough to partake of *a farinaceous food which should never be given until the child is at least five months old*." The inference being that the food is free from starch, of which it contains 8 per cent. How a child would be likely to thrive on this "pure" food may be seen from the diagram.

(Signed) M. WYNTER BLYTH.

F.—SANITARY WORK OF THE YEAR.

SANITARY INSPECTIONS.

In the following Tables, prepared by Mr. Skinner, the Chief Sanitary Inspector, the work of the Sanitary Department is stated, so far as it can be given in tabular form. It will be seen that 14,058 houses were visited in the course of house-to-house inspection, as compared with 15,016 in 1903. This, however, does not represent the total number of houses visited during the year. Apart from house-to-house inspection, a large proportion of the time of the inspectors is occupied in attending to complaints received from householders in every part of the town. During last year 997 such complaints received attention, as compared with 1,001 in the previous year. In addition, 8,949 visits were made for purposes of investigation and disinfection after cases of infectious disease. In each of these cases it is the practice to take the opportunity of making a sanitary examination of the houses visited. 2,793 visits were made during the year to Slaughter Houses; 38 to Cowsheds, 1,746 to Dairies and Provision Shops. The Common Lodging-Houses have received 297 visits. In 72 houses the soil-pipe has been tested by volatile tests; and 379 drains have been opened for examination.

Inspections during 1904.

	Totals for 1904.	Totals for 1903.
Number of Streets Inspected	190	244
„ Houses and other Premises Inspected...	14058	15016
No. of Complaints attended to...	997	1001
„ Visits to Slaughter Houses	2793	2696
,, „ Cowsheds	38	37
,, ,, Bakehouses	466	Special Report.
,, ,, Dairies and Milk Shops ...	337	893
,, „ Provision Shops	1409	1616
,, ,, Restaurants	122	139
Number of Day Visits to Common Lodging-Houses	161	284
Number of Night Visits to ditto	136	66
„ Visits in respect of Sickness ...	7484	5347
,, Visits to Disinfect Rooms ...	829	1020
,, Visits for Removal of Bedding ..	636	826
,, Drains Tested by Volatile Test .	72	75
„ Drains Opened for Examination	379	437
,, Visits for Sundry Purposes ...	8106	4818
,, Visits to look up Notices Served	9188	5234
,, Attendances at Police Court ...	29	36
,, Samples Collected for Analysis...	501	507
,, Inspections of Stables	1471	1966
,, Wastes of Water Reported ...	48	56
,, Letters sent to Schools and Public Library	1738	2304
Meteorological Observations Taken	532	678
Visits to Schools	152	192
Number of Visits under Factory and Workshops and Shop Hours Acts	3225	3535
Drains Flushed	37	22
Circulars Delivered *re* Diarrhœa	10000	10000
Markets Committee, One Inspector	10 days.	14 days.
Visits to Houses Let in Lodgings (Day)	445	377
,, ,, ,, ,, (Night) ..	24	14
,, Offensive Trades	90	60
Smoke Observations	26	18
Contagious Diseases (Animals) Act	94	10
Visits to Ice Cream Vendors	65	54

The sanitary inspections enumerated in the above Table have been followed by the serving of the notices given in the following Tables. A very large proportion of the work is done on the strength of verbal recommendations or preliminary "warning" notices.

Notices served on Owners during 1904.

Nature of Notice.	Warning and Verbal Notices.			Final Notices.		Total number of notices on owners complied with.
	Number served.	Number complied with before service of final notice.	Number reported for final notice.	Number served.	Number complied with.	
To drain into sewer and fill up cesspools ...	3	2	1	4	4	6
To relay drain and fill up cesspools	15	11	4	1	1	12
To relay drain	243	167	76	118	117	284
To repair drain or soil pipe	61	39	22	48	48	87
To trap drain	52	32	20	35	35	67
To cleanse and white-wash rooms	537	332	205	267	260	592
To clear drain or soil pipe	136	55	81	72	72	127
To clear, repair or cleanse closet, or repair flushing apparatus or pan...	481	227	254	320	316	543
To repave yard or scullery	378	198	180	322	308	506
To abate other nuisances	1024	630	394	503	484	1114
To provide covered dust bins	646	394	252	368	328	722
To provide premises with a proper water supply	9	7	2	2	2	9
To cleanse premises and remove foul accumulations	31	17	14	3	3	20
To provide manure receptacles	7	3	4	5	5	8
To fill up underground manure pits	6	4	2	1	1	5
To provide W.C. accommodation	12	9	3	2	2	11
To cause waste pipes to discharge into outer air	—	—	—	1	1	1
To pave and drain stables	8	5	3	12	12	17
To render damp walls with cement compo ...	99	51	48	68	58	108
Totals	3748	2183	1565	2152	2057	4240

Notices served on Occupiers during 1904.

Nature of Notice.	Warning and Verbal Notices.			Final Notices.		Total number of notices on occupiers complied with.
	Number served.	Number complied with before service of final notice.	Number reported for final notice.	Number served.	Number complied with.	
To cleanse and white-wash rooms	44	32	12	3	3	35
To clear drain or soil pipe	9	4	5	—	—	4
To clear, repair or cleanse closet, or repair flushing apparatus or pan...	186	107	79	75	75	182
To abate other nuisances	64	51	13	2	2	53
To discontinue keeping animals so as to be a nuisance	144	65	79	110	110	175
To abate overcrowding...	192	46	146	129	129	175
To abate smoke nuisance	8	7	1	1	1	8
Cleanse and white-wash bakehouses	23	23	—	1	1	24
Cleanse and white-wash workrooms	18	15	3	4	4	19
To discontinue let or occupy cellar dwellings	2	2	—	—	—	2
Cleanse premises and remove all foul accumulations	510	285	225	223	223	508
To provide covered dust bins	34	6	28	—	—	6
To repave yard or Scullery	5	4	1	—	—	4
Totals	1239	647	592	548	548	1195
Total notices served on owners	3748	2183	1565	2152	2057	4240
Total notices served ...	4987	2830	2157	2700	2604	5435

Only two summonses were necessary to enforce compliance with notices during the year. One was in respect of a foul stable. Defendant was fined 40s. and costs and an abatement order made on him. The other was on the occupier of a dwelling-house for failing to abate a nuisance due to overcrowding. Defendant removed to a larger house and the summons was withdrawn on payment of costs.

COMMON LODGING-HOUSES.

Ten are at present registered, having accommodation for 298 lodgers. Two houses, one in Edward Street and one in William

Street, have been registered during last year, providing additional accommodation for 32 lodgers. One other house was registered during the year but was vacated on February 16th, 1905.

The following summonses have been issued in respect of Common Lodging-Houses during the past year :—

Keeping an unregistered Common Lodging-House. Defendant died before the case was tried, his widow discontinued using the premises as a Common Lodging-House, and the case was withdrawn on payment of costs.

Permitting the kitchen of a Common Lodging-House to be used as a sleeping apartment. Defendant was fined 5s. and cost or seven days.

Permitting two men to sleep in the same bed. Defendant was fined 5s. and costs or seven days.

The Defendant in the last two cases shortly afterwards sold the business and left the house. No breach of the Bye-laws has occurred since the transfer to the present keeper.

HOUSES LET IN LODGINGS.

Bye-laws for houses of a rateable value not exceeding £26, and having four families in them if the landlord lives in the house, were confirmed by the Local Government Board, on July 13th, 1898, 82 such houses are now on the register, as compared with 70 at the end of 1903.

Five summonses have been issued against the keepers of five of these houses during the year for overcrowding, three of the offences were committed by the same man, a Polish Jew, and the other two by Italians. In three cases the defendant was fined 20s. and costs, or one month for each offence, the other two were fined 40s. and costs, or one month, and 10s. and costs or 14 days respectively.

REMOVAL OF HOUSE REFUSE.

In accordance with the arrangement made with the Borough Surveyor's Department, the following information has been supplied, and the necessary notices served in each instance.

Refused to have refuse removed	None
No answer to dustmen calling	None
No bins, defective bins, &c.	162
Other sanitary defects	None

OTHER PROCEEDINGS.

The following summonses, in addition to those already mentioned, were issued during the year.

Exposing unsound meat for sale. Fined £5 and costs, or one month.

Being the owner of the above meat. Fined £5 and costs, or one month.

Depositing sewage in the public street. Withdrawn on payment of costs.

Depositing sewage contaminated earth, &c., on the beach. Fined 10s. and costs or 14 days.

Failing to remove manure from stables every seven days. Fined 20s. and costs.

HOUSING OF THE WORKING CLASSES ACT, PART II.

Official representations have been made by me, under Part II. of the above Act during 1904, that the following premises are in a state so dangerous to health, as to be unfit for human habitation :—

Situation of Premises.	No. of houses.	Legal proceedings taken.	Result.
Upper Gardner Street	3	None	One house put into thorough repair, and two houses closed.
Gerrard's Court ...	6	None	Three houses put into thorough repair, and the remaining work in hand.
Circus Street	1	None	House closed.
Oxford Place	1	None	House put into repair.
Frederick Street ...	2	None	Ditto.
Gloucester Road ...	1	None	House closed.
Nelson Row	1	None	Under consideration.
Carlton Hill	3	None	Ditto.

G.—WORK OF THE SCHOOL NURSE.

Miss Dixon, who besides being a trained nurse, holds the certificates of two Examining Boards as a Sanitary Inspector, was appointed by the Education Committee in July last as an extra attendance officer with special reference to infectious and contagious diseases at a salary of £85 per annum. She came on duty on the 12th September. In urging this appointment, I laid stress on the excellent work which has been done under the Education Committee of London by school nurses; and particularly emphasised the superiority of action directed against the *causes* of irregular attendance, as contrasted with mechanical pressure brought to bear against parents.

It is not necessary in this report to give an exact analysis of her three months' work. The following table gives the number of cases attended to by her. I should add that in connection with an outbreak of diphtheria at the Stanford Road Schools her help was of great service. She attended each morning at the schools for four weeks, and took swabs from the throats of all children who had been away from school for a few days. By this means several slight cases of diphtheria which would otherwise have been overlooked were discovered.

Summary of School Nurse's Work, October 1st to December 22nd, 1904.

		Boys.	Girls.	Infants.	Total.
Cases of	Infectious Disease	3	14	9	26
	Ringworm	29	13	22	64
	Itch	2	—	2	4
	Verminous Heads	6	80	60	146
	Eczema	19	3	44	66
	Other Conditions	—	—	—	373
	Total Cases				679

The necessity for the School Nurse's work is indirectly gauged by the condition of the scalps of the children admitted to the Borough Sanatorium. For several years a careful note has been made of the condition on admission of every patient in this respect. The results so far as the 327 children under 14 admitted last year are concerned, were as follows:—

Condition of Scalp.	Children under 4		Children aged 4-14.		Total.
	Boys.	Girls.	Boys.	Girls.	
Clean or only Scurfy	28	20	83	49	180
Verminous	10	9	24	76	119
Ringworm	4	1	6	6	17
Eczema	5	1	2	3	11
	47	31	115	134	327

Thus of the children aged 4-14, which may be roughly taken as the school age, 53 per cent., and of children under 4 years 62 per cent., had clean heads; of the children aged 4-14 years 40 per cent., and of children under 4 years 24 per cent. had verminous heads; of the children aged 4-14 years 5 per cent., and of younger children 6 per cent. had ringworm.

In a similar investigation made four years ago, I found that of 429 school children admitted to the Sanatorium, 42 per cent. had clean heads, 32 per cent. verminous heads, 9 per cent. had ringworm, and 17 per cent. eczema or other similar conditions.

I have no doubt that these conditions will in the next few years, if the school nurse's work is fully utilized, be greatly improved.

H.—FOOD SANITATION.

THE PUBLIC ABATTOIR

Has now been open for ten complete years. The number of animals slaughtered in each successive year from the first has been 6,991, 11,184, 12,054, 12,650, 16,384, 18,304, 17,645, 20,318, 22,962, and 25,804.

The number killed in 1904 was 25,804, viz.:—2,350 beasts, 1,262 calves, 7,285 sheep, 810 lambs and 7,570 pigs in the public slaughter houses, and 97 beasts, 44 calves, 1,386 sheep, 271 lambs, and 4,729 pigs in the private slaughter houses at the Abattoir.

The amount received in tolls since the opening of the Abattoir has been as follows:—November and December, 1894, £7 13s. 4d.; 1895, £102 15s. 4d.; 1896, £122 4s.; 1897, £115 7s. 7d.; 1898, £185 10s. 3d.; 1899, £243 9s. 4d.; 1900, £279 17s.; 1901, £271 13s. 10d.; 1902, £352 14s. 10d.; 1903, £402 11s. 10d.; 1904, £434 4s. 3d.

In addition to the above amounts there is also an income of £85 per annum from the rental of private slaughter-houses at the Abattoir.

PRIVATE SLAUGHTER-HOUSES.

In various parts of the town 34 private slaughter-houses are in use. None have been closed during 1904. The Bye-laws for slaughter-houses have, on the whole, been fairly well carried out during the year, no case requiring prosecution having arisen. Each slaughter-house is visited several times a week by Inspector Cuckney, the Superintendent of the Abattoir.

Unsound Meat seized or surrendered during 1904.

Description.	Number of Animals.	Number condemned by Magistrate.	Number destroyed by arrangement with owners.	Total weight in lbs.
A.—*At the Abattoir*—				
Bullocks (whole carcase) ...	7	—	7	4500
,, (part of carcase) .	274	—	274	4356
Calves (whole carcase) ...	2	—	2	196
,, (part of carcase) ...	5	—	5	79
Sheep (whole carcase) ...	10	—	10	766
,, (part of carcase) ...	230	—	230	1032
Pigs (whole carcase) ...	51	—	51	7066
,, (part of carcase) ...	1260	—	1260	6613
B.—*In the Private Slaughter-Houses and Shops*—				
Bullocks (whole carcase) ...	9	1	8	5104
,, (part of carcase)	348	—	348	6644
Calves (whole carcase) ...	—	—	—	—
,, (part of carcase) ...	—	—	—	—
Sheep (whole carcase) ...	14	—	14	676
,, (part of carcase) ...	272	—	272	1322
Pigs (whole carcase) ...	2	—	2	107
,, (part of carcase) ...	155	—	155	895
	2639	1	2638	39356

Of the beasts, one heifer and 7 cows were found to be tuberculous to such an extent that the whole carcase was destroyed; 55 parts of beasts were also found to be tuberculous; one part of a sheep, 13 pigs and 501 parts of pigs were also found to be tuberculous.

The total amount of meat destroyed in connection with the private slaughter-houses and shops was 14,748 lbs.; at the Abattoir, 24,618 lbs.

One cattle dealer was fined £5 and costs for sending diseased meat into the Borough. One butcher was also fined £5 and cost for exposing diseased meat for sale in the Borough.

Other foods surrendered during 1904.

Chickens...	12
Herrings (15 barrels)	1 ton 10 cwt.
Eggs	180 dozens
Pickles	10 bottles
Cherries	1 half sieve
Gooseberries	21 ,,
White sloes	38 ,,
Plums	13 ,,
Bananas	1 bunch
Pears	4½ bushels
Potatoes	5 tons 11 cwt.

SALE OF FOOD AND DRUGS ACTS.

Number of samples collected...				501
,, ,, adulterated				47
,, prosecutions				8
,, convictions				6
,, withdrawn				2
Aggregate amount in fines ...	£2	11	0	
Analyst's fees recovered ...	1	10	0	
	£4	1	0	
Cost of samples	£4	11	2½	
Cost of analyses	132	3	6	
Analyst's salary	50	0	0	
Inspector's salary	12	0	0	
Cost of assistance ... Postage and railway fares	5	19	9	
	£204	14	5½	
Fines and analyst's fees recovered	4	1	0	
Net cost of working the Act ...	£200	13	4½	

Five milk sellers were fined amounts varying from 10s. to 1s. ; and one provision dealer was fined 10s. for exposing margarine for sale, without being labelled, as required by the Margarine Act.

I.—FACTORY AND WORKSHOP ACTS, SHOP HOURS ACTS, EMPLOYMENT OF CHILDREN ACT.

The total number of visits made by Inspector Mills for the purpose of carrying out the provisions of the above Acts was 3,225. Of these 2,098 were for the purpose of inspection, and 1,127 for other purposes, such as the looking up of works, the serving of notices, and visits in respect of sickness. A considerable portion of time in the early part of the year was spent in supervising the completion of alterations to those of the underground bakehouses which were not finished at the end of 1903. During the latter part of the year a great part of the inspector's time was occupied with special work in connection with the Employment of Children Act.

FACTORIES, WORKSHOPS, BAKEHOUSES, AND HOME-WORKERS.

The Secretary of State has submitted a special form for the guidance of Medical Officers of Health (see page 96) in preparing the report on Factories and Workshops in pursuance of Section 132 of the Factory and Workshop Act, 1901. This form did not reach us until the report for the year 1904 had been drawn up, but practically all the particulars required and some additional figures are given in the following tables :—

Factories inspected by Inspector Mills ...	63
Workshops ,, ,, ...	935

Of the above 935 workshops, 59 were home-workers' workrooms, 463 were workshop bakehouses, and three were factory bakehouses. Workplaces have not yet been inspected and registered as such, owing to pressure of other work.

Complaints of sanitary defects in 15 workshops have been received from H.M. Inspector, and the premises have been inspected, reported upon and the defects remedied.

Complaints in respect of overwork, &c., in six factories and workshops were forwarded to H.M. Inspector, and in two instances proceedings were subsequently taken and convictions obtained.

Notices of three new workships were given by H.M. Inspector, and reports sent to him of 25 workshops employing protected persons, and not having affixed an abstract of the F. and W. Act; 180 workrooms were measured and the cubic measurements entered in the Register and on the abstracts affixed in workrooms.

The number of notices served and the action taken are summarised in the table on page 96.

Workrooms found closed or removed during 1904 inspections, 26.

HOMEWORKERS.

During the year 90 lists were received from makers of wearing apparel, six from upholsterers, and four from other districts. These lists give a total of 803 names, but not much more than half of that number are actually employed owing to duplication of names in the February and August lists, and to the fact that many work for more than one firm.

Four lists were sent to adjoining districts.

The February lists gave 412 names and addresses.

„ August „ 391 „ „

Fifty-eight names given in August were not in the February list.

The total number of outworkers registered is 436; 42 of these work for employers outside of the Borough; nine living in other districts work for Brighton firms.

Forty-one firms failed to send in their lists on February 1st.

Thirty-five „ „ „ „ August 1st.

These were all written to, and the majority then sent in their lists, but several had to be personally visited.

Owing to this difficulty, three firms were prosecuted in February, but in spite of these convictions the improvement in August was not very marked.

Eight cases of infectious diseases were notified in homeworkers' families, six of these were removed to Sanatorium, and two were nursed at home. In these two cases, the employer was prohibited from giving out work until the premises had been certified free from infection.

It has not hitherto been found necessary to use the power given by Section 108 of prohibiting work on account of the unwholesome state of workrooms, though nearly the whole of the notices on outworkers were in respect of cleanliness. One workroom was found in a roof, the only approach being by a ladder through the ceiling of a bedroom. Two men were employed in it, there was gas lighting and a gas stove and no ventilation. Notice was served and the workroom closed.

BAKEHOUSES.

Of the 121 underground bakehouses in use in 1903, 119 made applications for certificates, and the remaining two were closed during the year and the premises used for other purposes.

68 certificates were granted in 1903
42 ,, ,, ,, early ,, 1904

A detailed account of the alterations and improvements to these was given in the Annual Report for 1903.

Two are held over owing to their not being fully completed in accordance with specification.

The above 112 were in use at the end of 1904.

In 4 cases it was considered impossible to make them fit for continued use, and these were permanently closed at the end of 1903 or early in 1904.

In two cases the bakehouse was closed owing to the owners preferring not to incur the heavy expense necessary to make them fit.

One certificate has been granted in February, 1905, the alterations not having been completed at an earlier date.

The preponderance of inspections of bakehouses over that of other workshops was due to the clearing up of the special work of 1903, and to subsequent inspection and special reports upon some of the worst of the ground floor bakehouses.

During the past two years, owing to pressure of other work, the bakehouses have not been all inspected at least twice in the year as formerly; but on the other hand many have been visited from 10 to 20 times, and during these two years a sum of over £8,000 has been spent in the improvement of existing bakehouses in Brighton.

SEATS FOR SHOP ASSISTANTS ACT, 1899.

Fifteen shops were inspected, in which more than three females were employed. 12 were found to have provided seats, 3 were without seats for the asssistants, and these were subsequently provided.

SHOP HOURS ACT, 1892-5.

The number of visits and inspections under the above Acts was 827. In 48 of the shops where persons under 18 years of age are employed, the required abstract of the Act was not shewn.

Only two complaints of overwork under this Act were received during the year. These were investigated, and in one case the information was found incorrect, whilst in the other case the occupiers acted in ignorance and made arrangements to let the girls leave at mid-day once a week.

SHOP HOURS ACT, 1904.

This new Act enables Local Authorities to make "Closing Orders," and thereby to "fix the hours on the several days of the week at which, either throughout the area of the Local Authority, or in any specified part thereof, all shops or shops of any specified class are to be closed for serving customers" (Section 1).

The hours fixed may be as early as 1 p.m. on one day in the week, but on the remaining days shall not be earlier than 7 p.m. The order may not apply to fairs lawfully held, charitable bazaars, or shops carrying on exclusively certain businesses specified in the schedule to the Act (such as post offices, public houses, restaurants, tobacconists, newspaper shops).

It is the business of persons or associations desirous of promoting early closing to address themselves to the Council, and if it is made to appear that a substantial number of those engaged in any trade or trades, whether generally or in a particular area, are in favour of some form of early closing, the Council will take the further steps contemplated by the Act. No local action has hitherto been taken under the Act.

EMPLOYMENT OF CHILDREN ACT, 1903.

The above Act makes restrictions as to the number of hours, and the nature of the employment of children under 14 years of age, and it also gives power to local authorities for the making of Bye-laws restricting the hours during which children may lawfully be employed beyond those prescribed in the Act.

The Town Council have decided that Bye-laws under the above Act which regulate the employment of persons under 16 years of age engaged in "Street Trading" will be administered by the police, and that the Inspector under the Factory and Workshops and the Shop Hours Act should supervise the remainder of this work. 273 visits have been made under this Act principally for the purpose of serving copies of the proposed Bye-laws and explaining their provisions to the occupiers of shops and workshops.

The Act also transfers the duties of inspection as to children "specially licensed under the Prevention of Cruelty to Children Act to perform in places of public entertainment" from H.M. Inspector of Factories to the officer appointed under this Act.

When granting the above licenses the magistrates have power to impose restrictions and conditions which they may think necessary for protecting the children from illtreatment, excessive exertion, or dangerous performances, allowing time for meals, etc., and generally protecting the children's health and morals.

The inspector's duty is to see that all the restrictions and conditions endorsed upon the licenses are properly complied with.

During the year 38 licenses have been granted affecting 70 children, and 42 night inspections and seven day visits were made in respect of same. Of these 70, Inspector Mills found that

18	were	employed as	Acrobats.
16	,,	,,	Actors and Actresses.
6	,,	,,	Musicians.
21	,,	,,	Singers and Dancers.
9	,,	,,	Supers.

The hours between which the children may be employed is stated on each license. On 5 occasions the children were found employed beyond the specified hours. Cautions were given and the times altered. 35 of the licenses had no restrictions, whilst three made a condition that the children must attend school regularly. In one instance this was not carried out until the parents were visited and cautioned by the inspector.

Factories, Workshops, Laundries, Workplaces and Homework.

1.—*Inspection.*

Premises.	Number of Inspections.	Number of Written and Verbal Notices.	Number of Prosecutions.
Factories ... ... (Including Factory Laundries.)	63	13	—
Workshops ... ... (Including Workshop Laundries).	413	224	3
Bakehouses	463	126	—
Homeworkers' Premises	59	20	—
Total	998	373	3

2.—*Defects found.*

Particulars.	Number of Defects. Found.	Number of Defects. Remedied	Number of Defects. Referred to H M. Inspector	Number of Prosecutions.
Nuisances under the Public Health Acts:—				
Want of cleanliness	34	34	—	—
Want of ventilation (including provision of flues for gas stoves) ..	16	16	—	—
Overcrowding	14	14	—	—
Want of drainage of floors	18	18	—	—
†Other nuisances...	55	55	—	—
Sanitary accommodations insufficient ...	2	2	—	—
Sanitary accommodations unsuitable or defective*	40	40	—	—
Sanitary accommodations not separate for sexes	2	2	—	—
Offences under the Factory and Workshop Act:—				
Illegal occupation of underground bakehouse (S. 101)	2	—	—	—
Breach of special sanitary requirements for bakehouses (SS. 97 to 100)	126	120	—	—
Failure as regard lists of outworkers (S. 107). Number of Firms ...	76	76	—	3
Giving out work to be done in premises which are unwholesome (S. 108) ...	—	—	—	—
Giving out work to be done in premises which are infected (S. 110) ...	2	2	—	—
Allowing wearing apparel to be made in premises infected by scarlet fever or smallpox (S. 109)...	—	—	—	—
Other offences	—	—	—	—
Total	387	379	—	3

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*Including 8 w.c.'s opening into workrooms contrary to Sec of State's Order, No. 80.

†Including 5 defective drains, 5 obstructive and dilapidated buildings pulled down, and 45 other nuisances, such as foul closets, urinals, waste pipes, &c.

3.—*Other matters.*

Class.	Number.	
Matters notified to H.M. Inspectors of Factories :—		
Failure to affix Abstract of the Factory and Workshop Act (S. 133)	25	
Action taken in matters referred by H.M Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5) ... ... — notified by H.M. Inspector	15	
Action taken in matters referred by H.M Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5) ... ... — Reports (of action taken) sent to H.M. Inspectors	15	
Complaint as to overwork	6	
Underground Bakehouses (S. 101) :—		
In use during 1903	121	
Certificates granted in 1903	68	
Certificates granted in 1904	42	
In use at the end of 1904	112	
	Number of	
Homework :—		
List of Outworkers (S. 107): —	Lists.	Out-workers
Lists received	90	803*
Addresses of outworkers forwarded to other Authorities	4	9
Addresses of outworkers received from other Authorities	4	42
Homework in unwholesome or infected premises :—	Wearing Apparel.	Other.
Notice prohibiting homework in unwholesome premises (S. 108)	—	—
Cases of infectious disease notified in homeworkers premises	8	—
Orders prohibiting homework in infected premises (S. 110)	2	—
Workshops on the Register (S. 131) at the end of 1904 :— The list cannot be given for another year.		

*As to overlapping of outworkers, see page 92.

TABLE I.—(*Vital Statistics of Brighton during 1904, and previous Years*).

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		DEATHS UNDER ONE YEAR OF AGE.		DEATHS AT ALL AGES. TOTAL.		DEATHS IN PUBLIC INSTITUTIONS.	Deaths of Non-residents registered in public institutions within the Borough.	Deaths of Residents registered in public institutions beyond the Borough.	DEATHS AT ALL AGES NET.	
		Number.	Rate.†	Number.	Rate per 1,000 Births registered.	Number.	Rate.†				Number.	Rate.†
1	2	3	4	5	6	7	8	9	10	11	12	13
1894 ...	118,260	3055	25·8	420	137	—	—	371	—	—	—	—
1895 ...	119,010	3057	25·7	503	164	—	—	360	—	—	—	—
1896 ...	119,760	3025	25·3	410	124	—	—	369	—	—	—	—
1897 ...	120,510	2986	24·8	428	144	—	—	381	—	—	—	—
1898 ...	121,270	3035	25·0	544	179	—	—	386	—	—	—	—
1899 ...	122,040	3058	25·1	530	173	—	—	447	—	—	—	—
1900 ...	122,860	2920	23 8	484	166	—	—	501	—	—	—	—
1901 ...	123,668	2984	24·1	483	162	2085	16 8	485	68		2025	16·4
1902 ...	124,539	3072	24·3	387	125	2052	16·2	525	92	15	1975	15·7
1903 ...	125,465	3046	24·3	348	114	1833	14·6	458	72	8	1769	14·1
Averages for years 1894-1903	121,732	3024	24·8	474	156	—	—	428	—	—	—	—
1904 ...	126,286	2963	23.5	395	133	2156	17·1	516	96	7	2060	16·3

†Rates in Columns 4, 8 and 13 calculated per 1000 of estimated population.

TABLE II.—*Mortality according to Wards (Local Government Board Table).*

Names of Wards.	1. KEMP TOWN.				2. QUEEN'S PARK.				3. PIER.				4. PAVILION.				5. REGENCY.				6. WEST.				7. MONTPELIER.			
Year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year	Population estimated to middle of each year.	Births registered	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.
	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a	b	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.
1901 ...	7150	108	90	19	8424	218	154	38	10487	241	202	37	4561	67	61	7	7523	127	113	18	4869	30	80	7	5887	74	86	9
1902 ...	7191	92	93	13	8484	232	170	37	10487	233	194	39	4561	72	65	6	7523	112	105	13	4869	28	54	1	5887	75	78	13
1903 ...	7241	111	89	25	8584	215	147	25	10487	199	190	36	4561	82	54	5	7523	93	78	16	4869	28	60	5	5887	76	69	10
1904 ...	—	98	97	11	—	209	165	28	—	190	190	30	—	78	65	12	—	104	121	19	—	33	61	2	—	76	90	14

Names of Wards.	8. ST. NICHOLAS.				9. ST. JOHN'S.				10. HANOVER.				11. LEWES ROAD.				12. ST. PETER'S.				13. PRESTON PARK.				14. PRESTON.			
Year.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b	c.	d.	a.	b	c.	d.	a.	b.	c.	d.	a.	b	c.	d	a.	b	c.	d
1901 ...	9173	218	178	44	11987	376	221	58	11235	367	199	60	13371	457	215	62	7653	218	168	54	7986	193	93	25	13172	291	182	45
1902 ...	9173	213	160	29	11987	388	227	59	11235	366	191	41	13621	462	207	52	7400	235	135	28	8486	245	108	22	13382	319	200	34
1903 ...	9173	213	155	29	12007	362	176	37	11235	357	180	52	14206	504	212	51	7148	179	90	16	8986	216	116	16	13493	421	168	35
1904 ..	—	193	163	23	—	375	230	47	—	363	222	68	—	473	231	64	—	165	117	28	—	236	122	19	—	370	218	30

TABLE III.

	Number of Deaths during 1904.											
	All causes.	Deaths under one year.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Measles	Whooping Cough.	Diarrhœa.	Phthisis.	Other Tubercular Diseases.	Bronchitis and Pneumonia.
Kemp Town ..	97	11	—	—	2	—	6	2	1	7	4	10
Queen's Park	165	28	-	—	1	—	11	2	5	12	4	19
Pier	190	30	—	—	—		9	3	2	17	8	33
Pavilion	65	12	—	—	1	—	3	2	2	5	3	5
Regency	121	19	-	—	-	1	4	—	3	9	5	16
West...	61	2	-	—	—	—	—	—	—	4	—	7
Montpelier .	90	14	—	—	—	—	—	2	1	9	4	5
St. Nicholas ...	163	23	—	—	1	2	6	—	4	18	5	22
St. John's	230	47	-	—	5	—	16	6	10	22	12	43
Hanover	222	68	-	—	—	3	15	7	7	17	8	35
Lewes Road ...	231	64	—	-	3	—	6	7	8	20	11	35
St. Peter's	117	28	—	1	—	-	9	2	6	11	3	15
Preston Park ...	122	19	—	—	—	—	6	1	1	7	12	14
Preston	218	30	-	1	3	1	3	2	4	16	6	39
	2092	395	—	2	16	7	91	36	54	174	85	298

Of the 165 deaths in the Workhouse, nine were of children who were born in the Workhouse.

The Queen's Park Ward contains the Workhouse. Where the information was obtainable, deaths in this Institution have been distributed to the Wards from which the patients were removed to the Workhouse. There remains 35 deaths (out of the 165 in the Queen's Park Ward) which occurred in the Workhouse, of patients from outside Brighton or whose Brighton home address was unknown. Of these two were due to phthisis and two to other tubercular diseases.

The 65 deaths in the Pavilion Ward include one of a visitor to Brighton in the Lying-in Hospital.

The 90 deaths in the Montpelier Ward does not include the deaths of a number of children occurring in this Institution, whose home addresses were known, these being stated in the Wards to which they belong. It includes 13 deaths in the Children's Hospital of patients whose home address was outside Brighton. Of these, one was due to whooping cough, one to phthisis, three to other tubercular diseases, and two to respiratory diseases.

The 163 deaths in the St. Nicholas Ward include, in addition to a death relegated to its own Ward, one death of a patient from outside Brighton.

TABLE IV. (*Local Government Board Table*).

Cases of Infectious Disease Notified during the Year 1904.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE BOROUGH.												TOTAL CASES NOTIFIED IN EACH WARD *														NO. OF CASES REMOVED TO HOSPITAL FROM EACH WARD.*													
	At all Ages.	At Ages—Years.																																						
		Under 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and upwards.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Small Pox ...	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria ...	265	1	65	91	49	21	17	21	6	1	—	2	19	23	19	13	4	7	19	24	28	25	42	10	15	17	19	19	16	10	5	2	15	21	28	24	40	9	10	12
Membranous Croup ...	4	—	3	1	—	—	—	—	—	—	—	—	—	1	2	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—		—	—	—	—	—	—	—	—	—
Erysipelas ...	95	8	1	2	11	7	4	14	14	15	10	9	14	16	7	1	1	1	9	6	8	5	7	9	4	7	—	1	—	—	—	—	—	—	1	—	—	—	—	—
Scarlet Fever	172	3	45	78	26	10	4	5	—	1	—	—	15	5	12	5	7	6	9	7	18	15	26	4	9	34	11	5	10	[illegible]	7	3	4	7	18	13	23	4	7	23
Enteric Fever	34	—	2	5	5	5	4	7	4	—	2	—	4	2	—	—	4	—	1	4	2	5	1	1	7	3	2	2	—	—	4	—	1	4	2	5	1	1	6	2
Puerperal Fever ...	6	—	—	—	—	—	2	3	1	—	—	—	—	—	2	—	—	—	—	—	—	—	2	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chicken Pox	29	2	17	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	1	3	4	9	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plague ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

*The Wards can be identified by their numbers in Table II, page 99.

TABLE V.

Age—	Months— 0–3		3–6		6–12		Years— 1–2		2–3		3–4		4–5		5–10		10–15		15–20		20–25		25–35		35–45		45–55		55–65		65–75		75 and Upwards.		Total Males.	Total Females	Total.
	M.	F.	M.	F.	M.	F	M.	F.	M.	F.	M.	F.	M.	F	M.	F	M.	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	M.	F	M.	F.	M.	F.			
Small Pox	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	—	—	—
Measles	−	−	1	−	10	9	22	15	9	8	4	3	1	7	1	4	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	48	46	94
Scarlet Fever	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	−	−	−	−	−	−	−	1	−	−	−	−	−	−	−	−	−	−	0	2	2
Influenza	−	−	−	−	−	−	−	−	−	−	−	−	−	−	0	1	−	−	−	−	−	−	1	2	−	1	−	−	5	3	2	5	6	6	14	18	32
Whooping Cough	−	−	1	1	7	7	6	6	4	2	−	−	−	2	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	18	18	36
Diphtheria	−	−	−	−	−	−	1	−	1	2	2	1	1	1	4	2	−	−	−	−	−	−	−	1	−	−	−	−	−	−	−	−	−	−	9	7	16
Enteric Fever...	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	1	1	−	2	1	−	1	−	−	−	−	−	−	−	−	4	3	7
Diarrhœa	2	4	11	13	7	6	3	2	−	−	−	1	1	−	1	−	−	−	−	−	−	−	−	−	−	−	−	1	−	1	−	−	−	1	25	29	54
Varicella	−	−	−	−	−	−	2	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	2	—	2
Syphillis	6	1	2	−	−	1	−	0	−	−	−	−	−	−	−	−	−	−	−	−	1	−	−	−	1	1	−	1	−	0	1	−	−	−	11	4	15
Gonorrhœa	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	−	2	−	−	−	−	−	−	−	3	—	3
Erysipelas	−	1	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	−	−	−	−	−	−	−	−	−	1	1	2
Puerperal Fever	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	2	−	−	−	−	−	−	−	−	−	−	—	2	2
Pyœmia Septicœmia... ...	−	1	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	1	2
Septic Cellulitis	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	−	−	−	−	−	1	1	−	−	1	−	1	−	−	1	4	5
Rheumatic Fever	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	−	−	−	1	1	−	−	−	1	−	1	−	1	−	−	3	3	6
Brain Tuberculosis	−	−	−	1	2	1	2	4	1	1	1	−	4	−	−	2	−	1	−	−	−	−	−	−	−	1	−	−	−	−	−	−	−	−	10	11	21
Lung Tuberculosis	−	−	−	2	−	−	1	1	1	1	1	−	1	−	1	1	−	1	4	8	8	7	29	13	27	18	17	8	10	7	6	1	−	−	106	68	174
Alimentary Tuberculosis ...	−	−	2	1	−	1	2	1	1	−	−	−	1	−	1	1	−	−	−	1	−	−	−	−	−	−	−	−	−	−	−	−	−	−	7	5	12
General and Undefined Tuberculosis	−	1	1	1	1	2	2	1	1	1	−	1	−	1	1	2	2	3	2	1	1	−	1	2	−	−	1	1	−	1	−	−	−	−	13	18	31
Other Forms of Tuberculosis	−	−	−	−	−	−	1	−	−	−	−	−	−	1	2	−	−	3	1	−	−	1	2	1	3	−	−	2	1	−	0	2	−	1	10	11	21
Scurvey Rickets	−	−	−	−	−	−	−	1	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	—	1	1
Alcoholism, Acute	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	−	1	−	1	−	−	−	−	−	−	−	3	—	3
,, Chronic... ...	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	−	2	2	4	2	−	2	−	−	−	6	7	13
Rheumatoid Arthritis ..	−	−	−	−	−	−	−	−	−	−	−	−	−		−							−	−	−	−	−	−	1	−	2	1	1	−	3	1	7	8
Gout	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	−	1	−	−	1	2	1	3
Cancer...	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	1	2	6	12	26	24	26	23	30	5	17	67	106	173
Diabetes	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	1	−	−	−	−	−	2	−	−	2	5	−	1	1	−	3	9	6	15

TABLE V. (*continued*).

Age —	Months— 0–3		3–6		6–12		Years— 1–2		2–3		3–4		4–5		5–10		10–15		15–20		20–25		25–35		35–45		45–55		55–65		65–75		75 and Upwards		Total Males.	Total Females.	Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M	F.	M.	F.	M.	F	M.	F.	M.	F.	M	F.	M.	F.	M.	F.	M.	F	M.	F	M.	F.	M.	F	M.	F.			
Purpura Haemorrhagica ...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	1	1	2
Haemophilia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	—	1
Anæmia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	1	–	–	1	–	1	1	1	1	–	1	4	4	8
Lymphadenoma ...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1	—	1
Premature Birth ...	29	22	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	29	23	52
Injury at Birth ...	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	—	1	1
Debility at Birth ...	4	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	4	8
Atelectasis	2	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	2	4
Congenital Defects ...	3	5	1	3	1	–	–	1	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	11	16
Want of Breast Milk	1	0	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	2
Atrophy, Marasmus ...	24	16	8	8	2	5	–	0	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	35	29	64
Dentition	–	–	–	–	3	1	2	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6	1	7
Rickets	–	–	–	–	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	—	2
Old Age	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	14	17	54	79	68	97	165
Convulsions	2	6			2	1																			1	1									5	8	13
Meningitis					1	2	1	2	1						1	1	1			1															5	6	11
Cerebral Abscess ...																				1												1			—	2	2
Apoplexy	1	1																										3	6	3	4	5	3	7	14	19	33
Softening of Brain ...																									1		0	1	3	1	2	3		3	6	8	14
Hemiplegia																										1		1			1	2	1	3	2	7	9
Other forms of Insanity ...																															1	2		1	1	3	4
Cerebral Tumour ...													1			1										2	1		0	1					2	4	6
Epilepsy			1						1						1						1					2	2			1		1	1	1	7	5	12
Laryngismus Stridulus ..	1				1																														2	—	2
Diseases of Spinal Cord ...																1										1	1	2	2	3	1		1		5	7	12
Ill-defined Nervous Diseases	1						2		1																1	3	2	4	1	2	5	2	5	4	18	15	33
Otitis	–														1	1		1			1		1												3	2	5
Pericarditis	–	–	–																	1							2								2	1	3
Heart, Valvular Diseases ...	–	–															2		1	1			3		4	1	9	7	9	3	11	6	4	5	43	23	66

TABLE V. *(continued).*

Age—	Months— 0-3		3-6		6-12		Years— 1-2		2-3		3-4		4-5		5-10		10-15		15-20		20-25		25-35		35-45		45-55		55-65		65-75		74 and Upwards		Total Males	Total Females	Total.
	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	M.	F.	M.	F	M.	F.	M.	F	M.	F.	M.	F	M.	F.	M.	F	M.	F.	M.	F	M.	F	M.	F.			
Angina Pectoris																															2	1	1		3	1	4
Aneurism																									2					1	1	1			3	2	5
Senile Gangrene																																	1	2	1	2	3
Embolism Thrombosis ...																				1				1	1				1			1		2	2	5	7
Phlebitis																												1				1			—	2	2
Other Circulatory Diseases ...		1		1												1		1		2	2		1		6	2	9	11	19	12	19	18	14	29	70	78	148
Diseases of Larynx and Trachea							1																												1	—	1
Bronchitis, Acute	6	4	7	0	3	6	5	4		2	1			1														1		1		5		7	22	31	53
Bronchitis, Chronic																1									2		1	6	3	8	17	19	13	36	36	70	106
Pneumonia, Lobar			1				1		1																				1				1		5		5
Pneumonia, Lobular... ...	5		4	2	8	11	5	9	4	1	1	3		1		1							1					2	1	1			1	1	30	32	62
Pneumonia	4	3	1	2	4	2	5	5	2	1		1		1		1	2	1	1	1	1		1	1	2	5	5	1	4	—	3	4	2	6	37	35	72
Emphysema																													1	1		1		1	1	3	4
Pleurisy		1								1	1																2					1	2		5	3	8
Other Respiratory Diseases ...																										1			6		1	3			7	4	11
Ulcer of Stomach and Duodenum																								3	1				1	1					2	4	6
Other Diseases of Stomach ...	2	1	1				1									1												1	1	1			1	3	6	7	13
Enteritis	2	4	4	1	4	8		1		1		1																	1		1	1		1	12	18	30
Appendicitis															3	1	1							2								1			4	4	8
Obstruction of Intestine ..		1				1	1												1				1			1		1	4	1	2	2	2	2	11	9	20
Cirrhosis of Liver																							1	2	1	3	1	7	3	6	3		1	3	10	21	31
Other Diseases of Liver ..		1																								1	1		1	3		2	1	1	3	8	11
Peritonitis	1	1													1	1					1								0	1				1	3	4	7
Other Diseases of Digestive System																	1								1					1		1		1	2	3	5
Diseases of Lymphatic System and Dustless Glands ...				1												1						1		1						1					—	5	5

Table V. *(continued).*

Age—	Months— 0–3		3–6		6–12		Years— 1–2		2–3		3–4		4–5		5–10		10–15		15–20		20–25		25–35		35–45		45–55		55–65		65–75		75 and Upwards.		Total Males.	Total Females.	Total.
	M.	F.	M.	F	M.	F.	M.	F	M.	F.	M.	F	M.	F.	M.	F.	M.	F	M.	F.	M.	F.	M.	F	M.	F.	M.	F.	M.	F	M.	F.	M.	F			
Acute Nephritis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	1	–	1	–	2	2	4
Bright's Disease	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	3	3	4	4	3	6	4	7	3	4	19	24	43
Diseases of Bladder and Prostrate	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	3	–	1	0	5	—	5
Other Diseases of Urinary System	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	2	–	–	–	1	–	–	1	1	–	5	1	6
Diseases of Penis and Testis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	—	1
Diseases of Ovaries	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	0	2	–	–	—	3	3
Diseases of Uterus and Appendages	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	2	–	1	–	–	–	–	–	–	—	4	4
Miscarriage	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	–	–	–	–	–	–	–	—	2	2
Placenta Praevia, &c. ...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–	–	—	3	3
Puerperal Thrombosis ...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	—	1	1
Other Diseases of Pregnancy and Child Birth... ...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	3	–	1	–	–	–	–	–	–	—	5	5
Arthritis, Ostitis	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–			1	1	2
Other Diseases Osseous System	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	2	—	2
Ulcer, &c.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	2	2	2	4	6
Pemphigus	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	—	1
Other and Ill-defined Diseases of Integumentary System	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	2	—	2
Accidental—																																					
In Vehicular Traffic ...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	2	–	–	–	2	–	–	–	5	—	5
By Weapons	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	—	1

Table V. *(continued).*

Age—	Months— 0-3		3-6		6-12		Years— 1-2		2-3		3-4		4-5		5-10		10-15		15-20		20-25		25-35		35-45		45-55		55-65		65-75		75 and Upwards.		Total Males	Total Females.	Total.
	M.	F.	M.	F.	M.	F	M	E.	M.	F.	M.	F	M.	F.	M.	F.	M	F.	M.	F	M.	F.	M.	F.	M.	E	M.	F.	M.	F.	M.	F.	M.	F.			
Accidental *(contd.)*—																																					
Burns and Scalds	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	1	2
Poisons. Poisonous Vapours	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	0	3	—	3
Drowning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	1	—	—	—	—	—	—	1	2	3
Suffocation, overlaid in bed	2	2	2	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	2	7
Suffocation, otherwise ...	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	3	4
Falls	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	1	—	—	1	2	1	1	1	1	7	6	13
Otherwise and not stated ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	1	1	2
Suicide—																																					
By poison	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	2	1	—	—	1	—	3	—	1	—	—	—	9	1	10
By Hanging	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1	—	—	—	—	—	—	—	3	—	3
By Drowning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	1	0	3	—	3
By Shooting	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	1
By Stab or Cut	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	1
By Precipitation from Elevated Places ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	1
By Jumping in Front of Train	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	1
Homicide	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1	2
Other Ill-defined Causes ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1
	98	87	48	38	59	65	68	54	31	22	12	12	10	15	21	27	10	11	14	20	20	9	57	44	75	70	87	103	126	109	139	155	134	241	1009	1083	2092

J.—APPENDIX.

(COPY.)

REGULATIONS RESPECTING HEALTH.

Passed by the Education Committee, March 28th, 1905.

COMMUNICABLE DISEASES.

1.—No scholar or teacher shall attend school while suffering from small pox, scarlet fever (or scarlatina), typhoid fever, diphtheria, whooping cough, chicken pox, measles, German measles, mumps, ringworm, or itch.

2.—No scholar shall attend school from a house where there is, or has been recently, a case of small pox, scarlet fever, or diphtheria, until the time stated on the notice from the Medical Officer of Health has elapsed.

3.—No scholar shall attend an infants' school from a house where there is a case of measles, German measles, whooping cough, chicken pox, or mumps ; but children in departments for older children who have previously had the disease in question, need not be excluded under similar circumstances.

4.—Teachers or other officers of the Committee living in infected houses should consult the Medical Officer of Health, who will advise and decide as to the desirability of their continuance at school.

5.—Every teacher suspecting that any scholar is suffering from an infectious disease mentioned in Regulation 1, or comes from an infected house, shall at once isolate the child and report to the Head Teacher who, if satisfied there are reasonable grounds of suspicion, shall exclude the suspected scholar, and notify the Medical Officer of Health on Form A.

Special attention should be paid to cases of "sore throat."

6.—The Attendance Officer shall promptly notify to the Medical Officer of Health on Form B any case coming to his knowledge of "sore throat," whooping cough, chicken pox, measles, German measles, mumps ringworm, or itch, or any case in which it is suspected that these diseases exist, and also any suspected cases of small pox, diphtheria, or scarlet fever in respect of which it is found that no instructions have already been issued by the Sanitary Authority.

This obligation applies to the cases visited by the Attendance Officer at the scholars' homes.

7.—The Head Teacher shall furnish the Medical Officer of Health with similar information to that mentioned in Regulation 6, when he or she obtains information at the school of any such illness, in respect of which the teacher has reason to suspect that information has not been already sent to the Medical Officer of Health.

The action to be taken in the cases notified above, under Regulations 6 and 7, will be communicated by the Medical Officer of Health to the Head Teacher and the Clerk to the Education Committee as quickly as investigation can be completed.

Education Committee of the
County Borough of Brighton,
54, Old Steine, Brighton,
6th March, 1905.

DEAR MADAM,—

I have to inform you that the Education Committee at their meeting on Tuesday last, instructed me to request you in future to *refuse admission to children under three years of age*, unless special permission for the admission of such children has been given by the School Attendance (Parents') Sub-Committee. If, therefore, any cases should come under your notice in which hardship would fall upon the parents or children if such children were refused admission, it is desirable that you should yourself report to the Sub-Committee thereon. I am instructed also to inform you that the Education Committee *wish the attendance of children between three and four years of age to be discouraged.*

The Committee have been led to take this action on the recommendation of the Medical Officer of Health, Dr. Newsholme, who is of opinion that certain epidemic diseases, especially measles, would be less serious in their effects if very young children were excluded from school.

I am,
Yours faithfully,
JOHN CARDEN,
Clerk to the Committee.

The Head Mistress.

REPORT OF THE MEDICAL OFFICER OF HEALTH ON THE PROVISION OF ADDITIONAL MEANS FOR THE TREATMENT OF CONSUMPTIVE PATIENTS IN THE BOROUGH.

Public Health Department,
Town Hall, Brighton,
March 15th, 1905.

*To the General Purposes and Sanitary
Committees of the Brighton Town Council.*

Gentlemen,—

The consideration of my Report, dated the 22nd September, 1904, having been deferred, I have taken the opportunity of bringing its information up to date and of incorporating certain additional information which has an important bearing on the subject. This report embodies and replaces the above-mentioned Report.

The subject can best be dealt with by stating briefly:—

(*a*) The extent of the evil which has to be combated.

(*b*) What has been already done in the Borough.

(*c*) The extent of further requirements for combating the evil.

(*d*) Suggested additional means for the treatment of consumptives.

(*a*) *Extent of the evil.*

It is almost impossible to give facts which will enable those not constantly engaged in connection with preventive measures against this disease, or those who have not shared the distress and prolonged suffering caused by it in their own families, to realise the terrible ravages caused by consumption and other forms of tuberculosis. The following facts illustrate the havoc caused by tuberculosis, and indicate the urgency, in the public interest, of further and more extended efforts to control it:—

(1) In 1904, consumption and other tubercular diseases (which are all preventible), caused 259 deaths in Brighton, while small pox caused 0, scarlet fever 2, enteric fever 7, and diphtheria 16. For these last named diseases we provided 168 beds at the Sanatorium and at Fulking Grange, and this number is needed when these diseases are epidemic. Precautionary measures against these diseases have been in a large measure successful. They will be equally successful against consumption if we adopt all the preventive measures within our power.

(2) At the working years of life (20 to 65) more than one out of every three deaths occurring in Brighton among men is due to tuberculosis. It is a disease which especially *kills at the working period of life.*

(3) During the last ten years 1 in 7½ of the total deaths of inhabitants of Brighton in the Workhouse, has been due to consumption of the lungs.

During the same period, one out of every five deaths from consumption has occurred in the Workhouse Infirmary. Clearly then, consumption *is an extremely serious cause of pauperism.*

(4) In my Annual Report for 1901 (page 44) I shewed that consumptive patients admitted to the Workhouse Infirmary in the preceding three years, each spent on an average 316 days there. On the basis of a cost of 15s. a week (which I understand is less than the average cost of separately administered infirmaries), this means an annual cost of £2382, or about *one eleventh of the total amount spent in the parish of Brighton on parochial relief*, excluding what is spent on the Borough Lunatic Asylum.*

(*b*) *What has been already done.*

A system of voluntary notification of consumption by medical practitioners was begun in 1899. This, although incomplete, has brought to our knowledge a large number of cases urgently requiring attention, both in their own interests and in the interests of those exposed to prolonged infection.

In July, 1902, the Town Council authorised the appropriation of four and in the following December of ten beds in a detached pavilion of the Borough Sanatorium, for the treatment of consumptive patients. Since that time, up to December 31st, 1904, 259 consumptive patients have been admitted. Most of these patients when admitted, were in the middle or advanced stages of the disease. Nevertheless, the results obtained have been extremely good. Over 40 per cent. of those treated for only one month during the two years up to the end of 1903, are fourteen months later (February, 1905) able to follow their occupation. Many others have had their working life extended; and even in the case of the patients who have not recovered, the danger to others after they leave the Sanatorium has been greatly reduced, if not entirely obviated.

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* The Brighton Infirmary is not administered separately from the Workhouse, and the total cost per occupant in the entire institution is probably only about 7s. a week; but the inmates of the Infirmary, and particulary the consumptive patients, must cost much more than this.

The good achieved may be summarised as follows:—

(i.) The working life of the patient has been prolonged.

(ii.) The period at which the patient or his relatives may become dependent on charitable or parochial relief has been postponed.

(iii.) Some cases have been cured.

(iv.) Every patient has been trained, so that when he leaves the Sanatorium, he is much less likely to act in a manner which will make him dangerous to his family or to his fellow-workmen.

(v.) During his stay in the Sanatorium his home has been cleansed and disinfected. Hence on his return he "starts fair," with a diminished prospect of re-infection by external dust.

(vi.) The same applies to his relatives and fellow-workmen; who have had, furthermore, an interval of freedom from exposure to infection. This is a matter of great import, for it is chiefly protracted and continuous infection which is dangerous.

Thus even if the patient is not cured, great good is achieved for the patient, and still greater good for the town.

Patients have, as a rule, been treated for only four weeks, the idea of training the patients and preventing risk to others having, in view of the primary functions of a Sanitary Authority, been kept in the foreground. If more patients could be treated, and for longer periods, much greater good could be done.

(c) *The extent of further requirements for combating the evil.*

We have seen that one-fifth of the advanced cases of consumption die in the Infirmary. The Board of Guardians use a ward for consumptives which will accommodate up to 30 male patients. So far as male pauper consumptives are concerned, the requirements of the case are thus fairly met. There do not appear to be more than an average of five female consumptive patients at a time in the Infirmary, and it has not been found convenient to provide a separate ward for these. This should be done, or an arrangement should be made by the Board of Guardians for them to be received at the Borough Sanatorium.

At the Sussex County Hospital, although the statutes of the hospital forbid the admission of consumptives, a certain number are inadvertently admitted in the course of other diseases. It is most desirable that arrangements should be made for their separate treatment, which cannot at present be secured. Although when reasonable precautions are taken, the risk of the infection being communicated to well persons is relatively small, it is much greater for the occupants of the same ward who are debilitated by acute disease. Further private charity is urgently needed to meet this requirement.

There is urgent need also for the temporary hospital treatment of more advanced cases of consumption than have hitherto been admitted to the Sanatorium. Male parochial cases are already cared for; but there are large numbers of families not in receipt of parochial relief, to whom such temporary hospital treatment would be an inestimable boon. They are excluded from our large general hospital, and rightly so; but not a week passes without this exclusion, or the inability to take more patients into the Sanatorium, causing avoidable suffering and spread of disease. *Private charity would, I believe, be freely given if beds for more consumptive patients could thus be bought.*

That our present accommodation of ten beds only touches a portion of the present evil is obvious. The question arises how much further accommodation is needed. This depends on the answer to the question

How many Consumptives are there?

(a). In my report dated last September, I calculated the number of cases of consumption on the basis of an average duration of each fatal case of three years. This in 1904 meant 522 cases, judging by the

recorded deaths from consumption in that year. I have since then calculated the average duration of 227 cases of consumption which were watched to their end in 1902-3, concerning which the facts could be ascertained. It was almost exactly four years. On this basis the number of cases of consumption in 1904 was 696. But in addition to the 174 deaths returned as due to consumption, 31 were ascribed to "tuberculosis" or "general tuberculosis," and most of these had active lung disease. Taking 200 as the number of deaths from pulmonary tuberculosis, the number of cases would thus be 800 in 1904. It should be added that this estimate makes no allowance for the large number of persons having tuberculosis of the lungs who either entirely recover or are not returned as dying from tubercular disease. The patients who recover from tuberculosis are much more numerous than those ultimately succumbing to it, as shewn by hospital records of autopsies made on patients dying from diseases other than tubercular.

(b). I have also approached this estimate from another standpoint, that of cases notified under our voluntary system of notification. This being a voluntary system is necessarily incomplete, though happily the cases notified are chiefly among the poor for whom by this means the maximum good can be done.

Since 1898 the total number of separate cases of phthisis which have been notified to the end of 1904 is 1,272. The history of these notified cases is as follows:—

Year.	Total Cases notified in the year, not including any cases previously notified.	Still living and under observation, Feb 28th, 1905	Died in the year							No information (Patients removed, etc.)
			1899	1900	1901	1902	1903	1904	1905 to Feb. 22nd	
1899	111*	—	—	—	—	—	—	—	—	—
1900	105	8	—	26	21	3	4	3	1	39
1901	153	32	—	—	37	15	6	4	—	59
1902	224	50	—	—	—	52	37	11	1	73
1903	316	130	—	—	—	—	62	31	3	90
1904	363	202	—	—	—	—	—	59	9	93
Total in the 5 years, 1900-1904	1161	422	—	26	58	70	109	108	14	354

---

* The cases notified in 1899 were not so systematically investigated as those in the last five years, and our records concerning them are very incomplete; it may be stated, however, that 62 have been lost sight of, 5 are still alive, 30 died in Brighton in 1899, 10 in 1900, and 4 in subsequent years.

It will be seen that over 30 per cent. of the cases have been lost sight of by removal from one address to another. They have not died in Brighton, as the deaths are all completely investigated and they are not in the list. In February, 1905, there were 422 cases of notified phthisis under observation. During the year 1904, 363 new cases were notified to me, and 85 old cases were re-notified.

(c). A more accurate method than the above, is given at the end of this report. It shews that the two previous estimates considerably understate the facts.

A consideration of the various facts mentioned above leads me to the conclusion that 800 is a low estimate of the average annual number of active cases of consumption in Brighton.

If the number of deaths from consumption were to remain about 200 as at present, and notification of cases were complete, after a while only 200 new cases would be notified in the town each year instead of 363 as in 1904. If then all the accumulated cases had been dealt with, the number of cases requiring to be treated each year would only be 200 *plus* an uncertain number of advanced cases who had previously been unsuccessfully treated at an earlier stage.

Apportionment of 30 beds.—These would be apportioned as circumstances require; but the following estimate may be taken as representing the number of patients who probably could be treated each year under the proposed arrangement.

A large number of workmen would continue to be unwilling and unable to stay away from their work for treatment longer than four weeks. If, as at present, ten beds were occupied by such patients, then about 120 would be treated and trained each year.

Of the remaining 20 beds, 10 would be occupied by early patients, having a good prospect of cure, who would each stay about three months. Probably 40 such patients could be treated annually. The remaining 10 beds would be kept separate for advanced cases. It is impossible to estimate at present the frequency of change of occupancy of these beds; but judging by the experience of the Infirmary the change would be very infrequent.

Temporary Character of Need for 30 Beds.—For several years to come we shall have to deal with an accumulation of consumptive cases.

At the end of a number of years (probably ten or twelve) if the measures for the accumulated cases and for the annual 200 new cases are effective and successful, the annual 200 will become 150 and will, I am confident, decline in the course of years to a much smaller number than this.

There is therefore no likelihood that the 30 beds for consumptives for which I have asked will be permanently needed. They will be needed for a few years, and as they can be provided without any capital expenditure on buildings, not to use them for this purpose will be to throw away a golden opportunity for rapidly reducing the death-rate of the town; but afterwards 20 beds will suffice, and eventually almost certainly the 10 beds which we already have will meet the needs of the town.

The preceding recommendation involves a consideration of our available accommodation.

Accommodation at Sanatorium.

We have 12 beds at Fulking Grange for small pox, 10 beds at the Borough Sanatorium for consumption, and 146 beds for the acute infectious diseases. An epidemic of small pox is rarely coincident with other epidemics, and the beds at Fulking Grange can nearly always therefore be held in reserve for emergencies.

The 146 beds at the Sanatorium for acute infectious diseases are seldom all required together, but they must be provided, because different infectious diseases cannot be treated together. The number of patients during the last few years has varied from 20 to 209 (the last was during a very mild epidemic of scarlet fever, occurring at the same time as an epidemic of diphtheria).*

In the interval of epidemics, a large number of beds are unused, and capital expenditure is going on, without corresponding immediate benefit. Several years will probably elapse before all our beds are again required, and speaking generally, the the majority of the beds are only required for a few months at intervals of several years. Meanwhile the capital expenditure incurred is exactly on the same footing as a fire insurance premium.

---

* Incidentally it may be mentioned, that the total hospital provision for infectious cases per 100,000 of population, is 133 in Brighton, 145 in Hove and 173 in Eastbourne. It is clear, therefore, that we are not over-provided, though, in my opinion, sufficiently provided.

There is no reason whatever why one pavilion should not be utilized for several years to come in the treatment of consumptives. The likelihood of this arrangement not being disturbed, is increased by the fact that owing to the partial disappearance of typhoid fever, much fewer beds are needed for this disease than were required before the last three or four years, and than have been allocated for it.

Recommendations.

I recommend that 30 beds be set apart for the treatment of consumptives at the Sanatorium, and that appeal be made for the maintenance of some of these beds out of private charity. I strongly believe that such an appeal will be successful. There is no other charity so urgently needed, and no charity which will be so fertile in improved health to the town.

I also suggest to the Council the advisability of setting aside a sum out of the Hedgecock Bequest of, say £20,000, the income of which should be appropriated to the expenses of maintenance of patients under treatment in these beds. The income of this sum should, I think, be paid to a body of managers, who would also undertake the collection of subscriptions from the charitable public, in aid of the cost of maintenance of patients in the institution, and who would be responsible to the Council for the payment of the expenses of maintenance of all consumptive patients treated in the Sanatorium.

It would not, I think, be possible to devise any other method of applying funds arising from this Bequest, which would be equally effective, both to alleviate suffering, and to conserve the working power of a large section of the wage-earning classes at present incapacitated, owing to the want of adequate means of treating this terrible scourge.

Cost of 30 beds.

When ten beds at the Sanatorium were reserved in 1902 for consumptives, I estimated that the probable cost would be 30s. a week per patient. It is now necessary to revise this estimate, which is excessive, unless a share of the interest on the capital expenditure of buildings be added.

During the four years, 1900-1903, the average cost for every patient in the Borough Sanatorium was 22s. 6d. a week. This includes no allowance for payment of interest on capital expenditure on buildings, but it covers all current expenditure of maintenance and staff. It also includes the proportion of cost of maintenance of the Municipal Laboratory and the Disinfecting Station, which are at the Sanatorium. During the last 15 years the average cost per patient per week has varied from 34s. 6d. in 1890, to 16s. 8d. in 1893 and in 1899 With more patients the cost per head declines. Certain costs must remain, whether wards are occupied or unoccupied.

How does this bear on the nett cost of consumptive patients?

1st.—The interest on capital expenditure may be excluded, because this goes on whether the wards are empty or not.

2nd.—Certain items of current expenditure may be excluded, because these go on if the wards are empty.

3rd.—The remaining nett cost I have very carefully estimated at 18s. 9d. per consumptive patient a week if there were only ten patients as at present, or 16s. 6d. a week if there were 20 or more patients. It would be perfectly safe to charge only 20s. on the above basis, if consumptive patients were treated for a charitable trust at the Borough Sanatorium. On this basis, the cost of maintaining 30 beds occupied by consumptive patients for a year would be £1,287, the cost of maintaining 20 beds would be £851.* I have had numerous applications from *bona-fide* inhabitants of Brighton, who would be prepared to pay 20s. a week, but cannot afford the larger sums charged at private Sanatoriums, and the receipt from them would to that extent diminish the annual expenditure. There are many other cases in which patients' friends are willing to pay this amount for them. Assuming that an income of £800 per annum were available from the Hedgecock Trust, then the managers of the Consumptive Charity would need, in order to maintain 30 beds at £1 a week per bed (which would be a safe charge for the Sanitary Committee to make), to obtain £760 per annum from private charity or further bequests.

It may be added that the administration of the entire Sanatorium can be much more economically carried out with a steady than with a violently fluctuating number of patients.

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* The annual cost of ten beds already utilized at the Sanatorium for consumption at 18s. 9d. per week has been £487 10s.

Combination of Private Charity and Municipal Action.

It may be urged that the above scheme is unsatisfactory, because it attempts to combine private and municipal action. I claim that this is its chief virtue. Princely sums have been given in some other large towns for the provision of Sanatoriums for consumptives. So far, Brighton has not been thus favoured. But in the towns alluded to, these large benefactions have been swallowed up in the erection of new buildings (the cost sometimes being as much as £1,000 a bed) and a steady additional effort is required for yearly maintenance.

In our instance it is suggested that the Town Council should say: We are prepared to supply a pavilion containing 30 beds under ideal conditions for the treatment of consumption subject to the following conditions:—

1st. That the Medical Officer of Health shall have general supervision of the arrangements for training the patients, and that there shall be due safeguards for the care of the buildings.

2nd. That the buildings shall be vacated at a week's notice when required.

3rd.—That such conditions as to duration of residence in the locality before admission shall be made as shall effectively prevent the possibility of the institution attracting consumptives from outside. There is not the slightest difficulty in securing this condition, as is proved by our experience in the last two years.

The contribution of the Town Council to the scheme would be the use of the buildings, and the income arising from a portion of the Hedgecock Bequest. The contributions of charitable bequests and of the charitable public would maintain the beds. The benefit to the Sanitary Authority is identical with that to the public. A large number of patients would cease to be centres of infection. Many of these would resume their work in health. Others would have their working days prolonged; much suffering would be alleviated, and the amount of pauperism and of poverty in the town would greatly decline.

I am, Gentlemen,

Your obedient Servant,

Arthur Newsholme, M.D.

Medical Officer of Health

SUMMARY OF SPECIAL REPORT ON ADDITIONAL MEANS FOR THE TREATMENT OF CONSUMPTIVE PATIENTS.

(*a*.) *Extent of the Evil.*

Last year tuberculosis caused 259 deaths in Brighton.

One out of every three deaths at the working years of life is due to tuberculosis.

Of the deaths in the Workhouse 1 in 7½ is due to consumption of the lungs.

Consumption is one of the chief causes of pauperism.

Consumption is at present a great drain on the financial resources of the town.

(*b*.) *What has been already done.*

Voluntary notification of consumption was begun in 1899.

In 1902, ten beds were appropriated for consumptives at the Borough Isolation Hospital, each patient being treated and trained for one month. For summary of the benefits from this, see page 2.

(*c*). *Extent of further needs.*

At the Workhouse 30 male advanced pauper cases can be treated.

There is no separate provision for female pauper cases.

At the County Hospital a certain number of cases of tuberculosis are treated, who ought to be transferred to a separate institution.

The number of consumptives in Brighton at the present time is estimated to be about 800.

For some years to come, 200 new patients would (after the arrears had been overtaken) need treatment each year. Some of these could be treated at home, but for all Sanatorium training is desirable, It is believed that at the end of a few years only 20 beds and eventually only 10 beds will be needed.

There is no ground whatever for the apprehension that this provision will lead to the additional importation of cases of consumption into Brighton. The two years' residential limit which has been imposed and will be continued is ample protection against this.

(*d.*) *Recommendations.*

It is recommended that 30 beds should be set aside for the treatment of consumption at the Borough Isolation Hospital, of which probably ten would be for patients who could only remain for a month, ten for patients in a curable stage, who would stay at least three months, and ten for advanced cases, whose stay would be indefinite.

It is recommended that the income of £20,000 from the Hedgcock Bequest be devoted to this purpose, and that the balance of the total £1,560 per annum needed for this purpose be raised from private charity.

ADDENDUM ON PAGE 114.

(c). A more accurate measure of calculating the number of consumptives than those already given is the following.

Confining our attention to the period of residence in Brighton, the history has been traced back of all cases of consumption which came to our knowledge during the six years, 1899 to 1904, either by being notified or through the death returns. Each case whether fatal or non-fatal has always been made the subject of careful enquiry as to duration of illness and length of residence in Brighton. The latter item can be accurately estimated. The former is commonly understated. To take an example. Assuming that a patient dying from consumption in 1904, has been ill three years in Brighton, he will appear as a patient in each of the four years, 1901-2-3-4, and so on in every instance. This is the basis on which the appended table has been worked out.

A further estimated addition is necessary because judging by the experience of the past six years, a large number of additional cases who were consumptive during these four years, 1901-04, will hereafter become known to us. The estimated addition on this ground has only been continued to the end of 1905, which involves a considerable understatement of the facts.

On the above basis it is plain that there were during 1904, at least 937 cases in Brighton.

It should be added that 293 cases notified during the years 1901-4 inclusive, have removed from their known addresses. Of these 79 are known to have left Brighton; 84 went to the Infirmary, and some have left that Institution for unknown addresses, while 130 have removed to unknown addresses within or without Brighton, probably the majority within Brighton. What proportion of the above cases should be added to the totals at the foot of the following table must remain a subject of speculation.

NUMBER OF CONSUMPTIVE PATIENTS KNOWN TO BE IN BRIGHTON IN EACH YEAR 1901-04 INCLUSIVE.

	1901	1902	1903	1904
8 cases notified in 1899 and 1 in 1900, all living on March 17, 1905	9	9	9	9
26 cases notified in 1901, all living on March 17, 1905 ...	26	26	26	26
22 ,, prior to 1901, and dying or removing in 1901	22	—	—	—
58 cases notified in 1901, and dying or removing in 1901	58	—	—	—
122 ,, not notified, but dying in 1901	122	—	—	—
1902—				
48 cases notified in 1902, all living on March 17, 1905...	34	48	48	48
22 ,, prior to 1902, and dying in 1902 ...	22	22	—	—
10 ,, ,, ,, removing in 1902 ...	10	10	—	—
45 ,, in 1902, and dying in 1902	32	45	—	—
46 ,, ,, removing in 1902	25	46	—	—
113 ,, not notified, but dying in 1902	84	113	—	—
1903—				
115 cases notified in 1903, all living March 17, 1905 ...	41	78	115	114
42 ,, prior to 1903, and dying in 1903 ...	31	42	42	—
19 ,, ,, ,, removing in 1903...	12	19	19	—
56 ,, in 1903, and dying in 1903	24	42	56	—
58 ,, ,, removing in 1903 ...	5	8	58	—
87 ,, not notified, but dying in 1903	23	51	87	—
1904—				
195 cases notified in 1904, all living March 17, 1905 ...	32	60	124	195
42 ,, prior to 1904, and dying in 1904 ..	24	33	42	42
42 ,, ,, ,, moving in 1904 ...	19	29	42	42
61 ,, in 1904, and dying in 1904	12	17	39	61
78 ,, ,, removing in 1904 ...	1	3	22	78
83 ,, not notified, but dying in 1904	17	27	54	83
Actual known total ...	685	728	783	698
To the total for each year must be added a number which is assumed to be for each year, the same number of new cases as came to our knowledge in 1904	42	62	107	239
Annual Total cases of Consumption estimated to end of 1905	727	790	890	937

COUNTY BOROUGH OF BRIGHTON.

Annual Report

ON THE

HEALTH,

Sanitary Condition, &c.,

OF THE

COUNTY BOROUGH OF BRIGHTON,

FOR THE YEAR 1905,

BY

ARTHUR NEWSHOLME, M.D., F.R.C.P.,
Medical Officer of Health.

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1906.

N.S. 2749—3/1906

COUNTY BOROUGH OF BRIGHTON.

Sanitary Committee.

THE MAYOR (MR. ALDERMAN COLBOURNE, J.P.),
MR. ALDERMAN BLAKER, J.P.,
,, ,, BUCKWELL, J.P.,
, ,, MARX,
,, COUNCILLOR BLACK,
,, ,, BROWN,
,, ,, BURBERRY,
,, ,, BUTT-THOMPSON,
,, ,, EVANS,
,, ,, HEUN,
,, ,, LINTOTT,
,, ,, SONE (Chairman),
,, ,, TITCOMB.

Town Clerk: HUGO TALBOT, ESQ.

Staff of the Public Health Department.

INSPECTORS.

JOHN NORRISH (Certif. San. Institute), Assistant Inspector of Nuisances.
JAMES A. CUCKNEY ,, ,, ,, ,, ,,
(Superintendent of Abattoir).
ERNEST E. MILLS ,, ,, ,, ,, ,,
(Inspector under the Factory and Workshops Act and Shop Hours Act).
FREDERICK BRAYBON (Certif. San. Institute) ,, ,,
ARTHUR WARD (Certif. San. Institute) ,, ,,
JOSEPH WEBB ,, ,,
JOHN SHARP ,, ,,
FREDERICK SALVAGE ,, ,,
ALFRED WELLSTED ,, ,,
JOHN BAKER, Disinfector.
HERBERT WM. HEASMAN, Senior Clerk.
HENRY NEWMAN, Junior Clerk.
CHARLES GREENFIELD, Junior Clerk and Messenger.

Matron of Sanatorium: MISS RATCLIFF.

House Physician & Deputy to Medical Officer of Health.
L. KINGSFORD, M.D., Edin., D.P.H., March, 1904-May, 1905.
T. [illegible]. BARRETT HEGGS, M.D., Aberd., D.P.H., May-Dec., 1905.

Chief Inspector of Nuisances.
JAMES F. SKINNER (Certif. San. Institute).

Public Analyst: MEREDITH WYNTER BLYTH, B.Sc., F.I.C.

Medical Officer of Health: ARTHUR NEWSHOLME, M.D.

PREFACE.

TOWN HALL, BRIGHTON,
February 28th, 1906.

To the Sanitary Committee of the Brighton Town Council.

GENTLEMEN,—

I have the honour once more to present my Annual Account of the work of the Public Health Department, and in doing so to draw attention to the fact that the general death rate and the death rate from infectious diseases reached during 1905 a point considerably lower than in any preceding year.

This report, in addition to the ordinary routine information, comprises more detailed discussions of important subjects, among which attention may be drawn to the paragraphs relating to infantile mortality, the dangers of sweetened condensed milks, and the co-ordination of local measures against Tuberculosis.

I am, Gentlemen,
Yours obediently

Arthur Newsholme, M.D.
Medical Officer of Health.

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VITAL STATISTICS.

POPULATION.

The estimated population of the County Borough at the middle of 1905 was 127,183.

The Borough Surveyor reports that 407 new dwelling-houses were passed by the Town Council during 1905, as compared with 538 in 1904 and 725 in 1903. These were situate in the following wards: Preston 155, Preston Park 117, Lewes Road 69, Kemp Town 25, Queen's Park 27, St. Peter's 5, Montpelier Ward 9. The population enumerated at the census was 123,478, and the number of inhabited houses was then 21,659, or 5·7 persons per house. Assuming that the additional houses are occupied by additional inhabitants on the same basis as at the census, the population for 1905 would be 137,523, which is probably much above the real numbers.

BIRTHS.

The total number of births registered in the Borough in the 52 weeks ending December 30th, 1905, was 2,911—1501 of boys and 1,410 of girls. This is equivalent to a birth-rate of 22·8 per 1,000 inhabitants. The average birth-rate of the seventy-six great English towns was 28·2, per 1,000.

Of the births, 169 were of illegitimate children, forming 5·8 per cent. of the total births. 45 births occurred in the Workhouse, of which 31 were of illegitimate children.

The birth-rate has steadily declined for many years. In 1881 it was 30·6 per 1,000, in 1891 it was 26·2, in 1904 it had fallen to 23·5. Stated more accurately, after corrections have been made for the varying proportion of married women and of women at child-bearing ages, the legitimate birth-rate declined from 29·05 in 1881 to 23·34 per 1000 in 1901, the illegitimate birth-rate from 1·72 to 1·30 per 100, and the total birth-rate from 30·77 to 24·63, which is equivalent to a reduction of 20 per cent.

DEATHS.

Last year, 1,721 deaths from all causes were registered as belonging to Brighton, including 48 in the Borough Asylum at Hayward's Heath, which is equivalent to a death-rate of 13·5 per 1,000. The death-rate in the 76 great towns was 15·7 and in London 15·6 per 1,000.

A comparison with Brighton in former years is given in Table III., page 75. In Table I., the most important causes of death are given each Ward.

The following table shows the general course of the Brighton death-rate during a long series of years :—

	Death-rate per 1,000 population from all causes.
Ten years 1851-60	25·0
1861-70	25·6
1871-80	20·5 (Preston incorporated in 1874)
1881-90	18·5
1891-1900	17·6
1901-04	15·8
1905	13·5

The death-rate was the lowest on record.

DEATHS OF VISITORS.

Of the total deaths registered during last year, 73 occurring in private houses, 66 in the County Hospital, and 16 in the Children's Hospital, 5 in the Workhouse, and 3 in the Home for Incurable Children, 1 in the Hospital for Women, 2 in the Throat and Ear Hospital, and 1 in the French Convalescent Home were stated to be of visitors. The return of deaths among visitors is incomplete, many of the deaths occurring amongst visitors not being marked as such. Thus at a nursing-home in Sillwood Place, three deaths of visitors, and at a nursing-home in Upper Rock Gardens one death of visitors, occurred.

During 1905, the deaths in the County Hospital comprised 104 deaths of inhabitants of Brighton, 44 of persons from other parts of Sussex, &c., 15 from Hove, and 7 London, &c.

Of the 47 patients dying in the Children's Hospital during 1905, 8 came from Hove, 6 from other parts of Sussex, 2 from London, and 31 were Brighton patients.

The Registrar-General excludes from the Brighton returns the deaths occurring in the Female Convalescent Home, Marine Parade, in the Home for Incurable Children, in the Sussex County Hospital, and in the Borough Sanatorium respectively, of persons who had not resided in the Borough prior to their admission into these respective institutions ; and includes on the other hand the deaths of any Preston paupers which occur in the Steyning Union Workhouse. In 1905, the deaths at the Hayward's Heath Asylum have also been added.

No correction is made for the large number of visitors dying in private houses or for deaths of non-residents in the smaller Hospitals enumerated above.

DEATHS IN PUBLIC INSTITUTIONS.

Of the total deaths, 220 occurred in the Workhouse, 170 in the Sussex County Hospital, 47 in the Children's Hospital, 10 in the Sanatorium, 5 in the Hospital for Women, 3 in the Throat and Ear Hospital, 3 in the Shoreham Workhouse, 1 in the French Convalescent Home, and 3 in the Home for Incurable Children. Total 462.

THE CAUSES OF INFANTILE MORTALITY.

The deaths under one year in 1905 numbered 297, which is equivalent to 102 per 1,000 births, the lowest figure on record. In Table II., page 74, special particulars as to infantile mortality are given. In this table the chief causes of infantile mortality can be studied.

(*a*) *Distribution of these deaths according to age.*—Of the total 297 deaths of infants, 69 or nearly 23 per cent. occurred in the first week of life, and 103 or 35 per cent. occurred in the first four weeks of life. In the second month of life 12½, and in the third 11½ per cent. of the total deaths during the first year occurred. Thus during the first quarter year 55 per cent. of all the first year's deaths occurred, in the second three months 20 per cent., in the third 14½ per cent., and in the fourth 10½ per cent. of all the first year's death. Special significance must be attached to the deaths in the first week of life. It is unlikely that measures directed towards the infants themselves will do much to diminish this heavy death-toll. More than half of the number are due to premature birth and congenital defects: and the only measures which could influence these would be those acting on the mothers. Even such measures, to the extent to which they may be practicable, must not be expected to do more than diminish to a modest extent this heavy mortality in the first year of life. Some light is thrown on this point by a study of the social condition of the parents of 66 of the 69 babies dying last year in the first week of life, concerning whom the particulars could be obtained. Of this number 6 were illegitimate babies, 17 the babies of labourers, 28 of artizans, and 15 of persons of the shopkeeping and clerk classes.* Of the same number two were born and died in the Workhouse, and two in the Lying-in-Institution. Only one was ascribed to syphilis, but this is almost certainly an understatement of the facts, as syphilis is a common cause of premature birth. Four were due to overlaying by the parents, and four were attributed to convulsions. Whether these were due to bad feeding or to injury at childbirth must remain open to doubt.

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*These six deaths of illegitimate babies in the first week of life occurred out of 39 such deaths in the first year of life, or rather less than one-fifth of the total. The corresponding number in each of the other groups cannot be given, but taking them together rather over one-fifth of the total deaths in the first year of life occurred in the first week.

(*b*) *Distribution according to legitimacy.*—Of the 297 deaths under one year, 32 were of illegitimate children. This number equals an infantile death-rate among illegitimate babies of 189 per 1,000 births, as compared with 97 per 1,000 births among legitimate babies. Of the 32 deaths of illegitimate babies 6 occurred during the first week of life, 1 in the next three weeks, 7 at ages 1-3 months, 9 at ages 3-6 months, and 15 in the second half of the first year of life.

The significance of this gradation of deaths is rendered more obvious when the corresponding gradation for legitimate births is given as in the following table:—

	Under 4 weeks.	1-3 months.	3-6 months.	6-12 months.
Number of Deaths of Babies under one year of all				
Legitimate	96	54	50	59
Illegitimate	7	7	9	15

It will be seen that the danger of death among legitimate babies greatly declines after the first month of life. Thus in the nine last months of the first year of life only about 14 per cent. more deaths occur among legitimate babies than in the first four weeks of their life; whereas among the illegitimate babies 243 per cent. more deaths occur in these nine months than in the first four weeks of life. The dangers of illegitimacy are evidently connected with the nursing out of such babies.

(*c*) *Distribution according to causes of death.*—We have already seen that premature birth is credited with a large share of the total infantile mortality. If to this be added marasmus, atrophy, &c., we have 64 deaths occurring in the first four weeks of life out of 103 total deaths under 4 weeks of age and out of 297 under 1 year of age. These must be regarded as in the main unpreventible by any measures directed towards the babies themselves. Taking the chief single causes of death among infants in the order of their numerical importance we have the following list:—

Premature Birth and Congenital Defects... ...		62
Want of Breast Milk, atrophy, debility, marasmus		36
Diarrhœa ...	33	51
Enteritis ...	18	
Pneumonia		26
Bronchitis		17
Overlaying		11
Syphilis		10
Convulsions		10

The subject of Diarrhœa is fully dealt with on page 25. It is in part at least due to artificial instead of natural feeding of babies.

Convulsions are frequently caused by bad feeding: but as 4 out of the 10 occurred under the age of one week these may be regarded as outside this category. Many of the deaths from marasmus, atrophy, debility, &c., must be ascribed to bad feeding: but it is to be remembered that concealed under these indefinite names are many cases of inherited syphilis. Coming next to the 43 deaths due to bronchitis and pneumonia, it should be noted that except 14, all these occurred in babies over 3 months old. Bronchitis and pneumonia as a rule mean infection. Chill may aid infection, but the essential cause is infection, and cleanliness of the environment of the baby is one of the chief means of preventing this. Measles and whooping cough are sometimes the causes of infantile bronchitis and pneumonia, although not stated in the death-certificate. Rickets only figures as the cause of death of two infants. In reality this disease was undoubtedly the reason which determined the fatal result in many of the deaths from bronchitis and pneumonia ; and it is a disease almost confined to babies artificially fed.

Relationship of Infantile Mortality to Artificial Feeding of Babies.— On page 28, this subject is fully discussed in relation to infantile diarrhœa. The chief means of preventing infantile diarrhœa is to encourage the breast-feeding of babies. It is not sufficiently recognised, however, that the same remark applies to other causes of infantile mortality. For this reason we have recently distributed copies of a card containing the following information in addition to the "Hints as to the Management of Children," which are distributed by the registrars of births, &c.

"THE FEEDING AND MANAGEMENT OF BABIES.

"Do not be persuaded to give up nursing your own baby, unless this is specially ordered by a doctor—a very rare event.

"*The best food for the baby is mother's breast milk alone without any other food whatever.* Babies nursed by their mothers have nearly three times as good a prospect of reaching one year of age as babies who are hand-fed. Consider then the danger to your baby's life which is incurred by not giving it breast milk during the first nine or ten months of its life.

"*It is especially dangerous to wean your baby during the summer months* of June, July, August and September. Death from Diarrhœa is very common among hand-fed babies, very rare among breast-fed babies.

"The permanent welfare of your baby, even it survive beyond childhood, is endangered by hand-feeding. Rickets is very common in hand-fed, rare in breast-fed children. Nearly every artificial food contains too little fat for babies. It is babies that are starved of fat who become ricketty. Rickets is a very serious disease, not only because it deforms the children's limbs, producing "bandy legs," &c., but also because it greatly favours chest ailments, and makes children more likely to die of whooping cough, measles, &c.

"After the first year of life, as well as in infancy, *too little fat in the diet is the most frequent error* from which children suffer. Do not forget that butter, dripping and margarine, cannot be replaced by jam and sugar, though these also are valuable, but less so than fats. Margarine is a perfectly wholesome fat. Give your children lots of margarine or dripping on bread if you cannot afford butter.

"But remember that in the first nine or ten months of the baby's life nothing forms an efficient substitute for the mother's breast.

"FURTHER ADVICE AS TO BABIES.

"*Never* give the baby bread sops or gravy, or any food except milk, until it is more than seven months old.

"*Never* use a feeding-bottle with a long tube.

"*Never* use a dummy teat or "comforter."

"Dirt is the great danger to the baby's health. Comforters are always getting dirty, and a long-tubed feeding bottle cannot be kept properly clean.

"*Never* give the baby soothing syrups, or teething powders, or anything of the sort.

"*Never* give a baby tea.

"ARTHUR NEWSHOLME,
"*Medical Officer of Health.*

"Public Health Department,
"Town Hall, Brighton.
"*January*, 1906."

The above facts give added importance to the statistics on methods of infantile feeding on page 28, which show that three out of every four mothers perform their natural duty to their babies. It is among the remaining fourth that the heaviest infantile death-rate occurs.

What is being done to diminish infantile mortality?

1. The registrars of births and the doctors and nurses of the County Hospital, Lying-in Hospital, and Children's Hospital, and the midwives of the town, are supplied with copies of the "Hints as to the Management of Children," and "The Feeding and Management of Babies," and these are distributed to mothers. The former of these has now been distributed from 1896 onwards.

2. Each year, for at least 10 years, in the month of June or July, 10,000 copies of the card entitled "How to prevent Diarrhœa," which was printed on page 49 of my Annual Report for 1904, are distributed from house to house in the poorer districts of the town.

3. The more direct municipal measures calculated to diminish diarrhœa, whooping cough and measles, have an important bearing on the same subject, and these are being vigorously pursued.

4. While not agreeing with the exaggerated statements as to the importance of milk contamination in regard to infantile mortality which have gained currency, there is no doubt that the efforts made by the Sanitary Authority to improve the milk supply have an important bearing on the diminution of infantile mortality. These are detailed on pages 50 and 70. It must be confessed that the measures to control milk contamination have only a limited success :—

(*a*) As to milk *cleanliness.*

(*b*) As to milk *impoverishment.*

Dirty milk is still supplied to towns, owing to the lack of efficient supervision at the farm, and owing to the uncleanly methods in use in the majority of English farms. Many large dairy companies have excellent clauses in their agreements with farmers on this point, but efficient enforcement of such clauses is still the exception. It is true that, as pointed out on page 29, domestic contamination is more important in regard to summer diarrhœa than farm contamination or contamination in transit ; but this is no reason why milk should be vitiated from its source. The problem of keeping milk sweet and wholesome for babies is unnecessarily complicated by this initial uncleanliness.

In regard to the impoverishment of milk, there is an almost equally unsatisfactory record throughout the country. Minimum standards are accepted as maximum requirements, and a very large proportion if not an actual majority of babies fed on cow's milk get such milk diluted down, by means of machine skimmed milk, to the minimum standard or a little below it. Medical officers of health and analysts are helpless in this matter, so long as circular letters of the Board of Agriculture can be quoted which lead to magisterial leniency even when impoverishment of milk has been proved.

5. The voluntary efforts of the Brighton and Hove Women's Health Society, founded in 1897, have been helpful. Each year a number of addresses are given to Mother's Meetings in the town on the management of babies and allied subjects, and much good is effected, which could be greatly increased if subscriptions, which may be sent to the Hon. Sec., 15, German Place, were increased. At

the present time an effort is being made to obtain sufficient funds to secure the whole services of a qualified lady for this work, which I trust may be successful.

6. Mr. Clifford, the inspector under the Infant Life Protection Act, states that 11 persons have notified the fact that they receive for payment more than one infant under 5 years of age, the total number of infants kept being 26. He reports that all the children when inspected were well cared for. He thinks that the limit of £20 under sec. 5 should be removed. It is open to question whether the evil resulting from concealment of birth or erroneous registration would be greater than the good that might be done by enacting that all single illegitimate babies put out to nurse should be subject to inspection under the above Act. The subject is worthy of further investigation, in view of the excessive mortality among illegitimate babies shewn on page 10.

The scheme of work of which some of the items are named above does not exhaust the possibilities of work with this object in view.

What further could be done?—Work in the above directions should be extended. We greatly need a lady inspector for this purpose, and I hope the Town Council will, after awhile, see their way to the appointment of one, who would also act as inspector of midwives. As explained on page 40, the work under the Midwives Act can scarcely be said to have been begun, and if in connection with it visits to advise recent mothers could be given, much saving of life might be effected. Meanwhile every midwife (and so far as the addresses can be obtained, every monthly nurse) is being supplied with copies of the two leaflets of instructions named before, and it is hoped that this may do considerable good.

The teaching of hygiene and domestic economy in our elementary and evening schools is already receiving considerable attention. I hope that in the near future much more time and energy will be devoted to these subjects, which have so important a bearing on the welfare of the community.

These two lines of action do not cover the entire ground. Moral training is an even more important means of preventing infantile mortality than the imparting of knowledge. The standard of comfort and cleanliness of the home determines in a very large measure the amount of infantile mortality, and the future health of children if they escape, however disabled by the struggle, the dangers of the first year of life. Poverty as urged in former reports is at the back of many of our sanitary difficulties. No one panacea can provide a remedy for poverty, which may be due to so many causes; and I am as desirous as anyone that nothing should be done to diminish active help to those sunk in poverty, whose children suffer in consequence of this fact. But practical social reformers cannot disguise from themselves the fact that alcoholic indulgence is one of the chief causes of poverty, of constant lack of comfort and cleanliness in the home, and of diminished prospect of life and health for the children. It is in view of my appreciation of the importance of this factor in the problem that I have secured by the kind subscription of friends, the issue of a Temperance Calendar, of which 5,000 copies printed on stiff cards, have been distributed to householders, in the hope that the attractiveness of the calendar would induce them to keep it permanently on their walls.

CHIEF CAUSES OF DEATHS.

The chief causes of death, and the number of deaths from each disease or group of diseases, are tabulated in Table V., page 77. This table gives the relative incidence of different diseases, and the incidence of each disease in the two sexes and at different ages. In three cases the cause of death was not medically certified.

NOTIFICATION OF INFECTIOUS DISEASES.

On March 1st, 1891, the Infectious Diseases (Notification) Act was adopted in Brighton.

The returns furnished to me under this Act shew that the number of *cases* of infectious diseases notified during 1905 was:—diphtheria, 221; membranous croup, 2; scarlet fever, 206; enteric fever, 34; erysipelas, 85; puerperal fever, 9; small pox, 0.

The above is the number of supposed *cases* of infectious disease. Further observation in a certain proportion of these led to a revision of the diagnosis.

Four cases of diphtheria, 1 of enteric fever and 2 of puerperal septicœmia were notified severally by two doctors.

The total number of notifications (including 4 notified by the Medical Officer of Health) was 564, as compared with 578 in 1904. Of the total, 123 occurred in public medical practice—the amount payable for the certificates being £6 3s.; while 437 occurred in private medical practice—the amount payable being £54 12s. 6d. The total amount paid for notification certificates was £60 15s. 6d.

Number of Cases of Infectious Diseases notified in each month of 1905, and Number of Deaths from Diarrhœa and Enteritis.

	Cases of						Deaths from	
	Small Pox.	Diphtheria and Membranous Croup.	Scarlet Fever.	Typhoid Fever.	Erysipelas.	Puerperal Fever.	Diarrhœa.	Enteritis.
January ...	—	44	24	4	11	1	—	—
February ...		31	10	5	8	1	3	1
March ...	—	27	20	4	8	—	—	1
April ...	—	22	8	1	4	1	—	1
May ...	—	24	4	2	12	—		1
June ..	—	6	14	5	5	—		1
July ...	—	15	38	1	1	—	1	—
August ...	—	5	15	4	6	1	16	6
September	—	22	10	2	4	—	18	8
October ...	—	13	21	6	9	2	5	4
November	—	4	19	0	9	2	1	2
December	—	10	23	0	8	1	—	1
Total	—	223	206	34	85	9	44	26

SMALL POX.

No cases were notified during 1905.

CHICKEN POX.

This disease ceased to be compulsorily notifiable on Jan. 24, 1904. During 1905, 92 cases of chicken pox came to our knowledge from schools, etc.

SCARLET FEVER.

The incidence of scarlet fever since notification came into operation is shewn in the following table :—

	Number of cases per 100,000 of population.	Number of deaths per 100,000 of population.	Case-mortality. Number of deaths per 100 cases notified.
1892	320	7	2·1
1893	408	9	2·2
1894	185	3	1·6
1895	164	4	2·5
1896	206	5	2·3
1897	270	10	3·7
1898	305	6	2·0
1899	667	8	1·2
1900	474	10	2·1
1901	142	1	·6
1902	117	2·4	2·1
1903	155	0	0
1904	136	1·6	1·1
1905	162	0·8	0·5

Only one death from scarlet fever occurred during 1905. Of the total 206 notified cases 166 or 80·6 per cent. were treated in the Sanatorium. Of the total cases, one case occurred in 157 private houses; in each of 17 houses, two cases occurred; in each of 3 houses, three cases occurred; in 1 house, six cases occurred.

Return Case—Home Treatment.—One case occurred during the year, in which a 2nd child in the family was infected by the ex-patient, after the latter had been strictly isolated for 35 days, had then been separately in a country village for 4 days, then with the about-to-be infected patient at the same place for 10 days, afterwards with him for 21 days at home before he failed with scarlet fever. Thus an interval of 32 days had elapsed between the cessation of isolation of the ex-patient and the probable date of infection of the second. During this interval the ex-patient had no mucous discharges, and the only change which may have bearing on the infection was the fact that the two began to sleep in the same room (not in the same bed) twelve days before the second patient fell ill. The arrangements as to isolation of the first patient and subsequent disinfection were satisfactory.

Return Cases—Hospital Treatment.—Two cases occurred.

R. F., æt 6, was admitted to hospital October 31st, 1904, on the second day of an attack of scarlet fever. When admitted he had purulent nasal discharge and this persisted throughout his stay in hospital. He was sent home

December 15th, and is stated to have had no further nasal discharge until December 28th, when he had a "bad cold in the head." His brother, R. F., æt 6, slept in a separate room from R. F., but occasionally used the same handkerchief. He failed with scarlet fever on January 5th. A sister, æt 9, was away from home from 1st January to 17th January. Although in contact with R. F. at other times she escaped infection. Three older brothers and sisters, æt 17, 16 and 20, also escaped. None of these had scarlet fever previously.

G. D., æt 8, failed with scarlet fever June 15th, admitted to hospital on the 19th, and discharged on August 28th, at end of 68 days. She had purulent nasal discharge beginning within a day of admission, which she is said to have had for a long time, and had been treated at the Throat Hospital for it. On the 8th August, her temperature went up to 102°, next day 101·6°, she vomited on 13th, no rash, and soon convalesced. When discharged on August 28th, there was no desquamation. She slept in the same room but in a separate bed from E. D, æt 7, and the two children played together from the 28th August to 9th September. On this day they went with their mother to Richmond, returning home on the 18th September. The two slept in the same bed while at Richmond. A number of visits were made in London, and on the 18th an exhausting programme of visits was carried out. There is no evidence of scarlet fever at any of the places visited. Two days after returning home to Brighton, E. D. failed with scarlet fever, i.e., 24 days after G. D. left the Sanatorium.

Milk outbreak of Scarlet Fever.—In July a small outbreak of scarlet fever occurred, during my absence on leave, which was happily traced to an infected milk supply X, when only 6 cases connected with the milk supply in question had been notified. The prompt measures then taken resulted in the outbreak being confined to 19 cases in 18 houses.

X had a supply of milk from 13 farms, and had over 30 men engaged in distributing milk in Brighton, and served 5 shops in addition with milk from these farms. The total milk supplied by X in Brighton was 900 to 1,300 gallons a day. Fortunately in consequence of a former recommendation from me, X had so kept his books that with the exception of the shops supplied by him (in connection with which 2 in addition to the above 6 cases had been notified when the infection was discovered) the farm from which each milk-carrier's milk on each round was distributed could be identified. The following table shows in the first column for each of the above-named six cases, the date of attack; in the second column the milk-carrier's number. In the four next columns are given the source of supply on each of four days preceding the date of attack. It will be noted that there were two or three daily supplies to each house, the first one supplying most milk. The name of the farm from which each supply of milk was received is shewn by letters. It will be noted that the milk of 7 farms supplied these six houses then known to be infected. A glance at the table will shew that the only supply common to all the cases was that marked **A.** This milk was found to

ANALYSIS OF THE SOURCE OF THE DAIRY MILK SUPPLIED TO THE FIRST SIX CASES OF SCARLET FEVER.

Initials of Farm whose milk was delivered on

Case.	No. of Milk Carrier	July 8th.	July 9th.	July 10th.	July 11th.	
1. (Onset 12th)	No. 21	**A**	C	**A**	D	1st round.
		B	B	B	B	2nd round.
		A	C	**A**	D	3rd round.
2. (Onset 12th)	No. 16	D	B	E	F	1st round.
		B and **A**	B and **A**	B and **A**	B and **A**	2nd round.
		A	**A**	**A**	**A**	3rd round.
3. (Onset 13th)	No. 3	E	B	F	**A**	1st round.
		B	B	B	B	2nd round.
		D or C	D or C	D or C	D or C	3rd round.
4. (Onset 11th or 12th)	No. 12	E	**A**	E	D	1st round.
		B	B	B	B	2nd round.
		D or C	D or C	D or C	D or C	3rd round.
5. (Onset 13th)	No. 19	D	G	E	**A**	1st round.
		D or C	D or C	D or C	D or C	2nd round.
6. (Onset 12th)	No. 24	**A**	**A**	**A**	**A**	1st round.
		D or C	D or C	D or C	D or C	2nd round.

come from two farms near each other in West Sussex. Dr. Heggs visited these farms immediately—on July 15th. At the first of the two farms no evidence of scarlet fever was found among workmen or their families, and the cows were healthy. At the second farm, several cases of previously unrecognised scarlet fever were discovered. A milker had failed with scarlet fever on the previous day, his daughter on the 13th. The brother, aged eight, of another milker, was found to be "peeling" (onset of illness 7th July). Another brother failed with scarlet fever on the 15th, and the mother on the 17th. The farmer's housekeeper had failed with scarlet fever on the 11th, and the daughter on the 13th. Two cases of sore throat without rash were also discovered and isolated. There was thus a considerable outbreak of scarlet fever on the farm, the first case on the farm preceding the first case in Brighton. It was ascertained that the first patient on the farm had acquired his infection at the village school, where two previously unrecognised cases of scarlet fever had been discovered at school a few days before the above visit. It should be added that a cow on the farm, when visited by the Brighton veterinary surgeon on the 17th July, was found to have a scabby ulcer on one teat. It was not otherwise ill. Cultures from this scab failed to show any streptococci. As already stated, six cases were known when the above steps were taken, not reckoning two cases in connection with shop supplies of milk. Eleven other cases in ten further houses occurred, the latest onset being the 16th July. The outbreak suddenly ceased on stopping the above milk supply.

The amount of milk daily supplied by the above farmer to Brighton was 90 gallons, which would probably go approximately to 720 houses. This implies a house incidence of 2·5 per cent. In the 15 implicated houses in which the facts could be ascertained, 99 persons lived; thus roughly 1 out of 6 was infected. We did not ascertain exactly how many of these drank milk, in order to avoid any imputation on the milk. The milk-vendor was specially commended by the Sanitary Committee for his important and successful co-operation in preventing a much more serious outbreak; and in the light of the fact that it would have been impossible thus early to trace the source of the outbreak in a milk supply of such various sources as this, had not the milk-vendor been acting on advice given to him some years earlier by the Medical Officer of Health, the following circular letter was sent round to all milk-vendors:

"THE IMPORTANCE OF BEING ABLE TO IDENTIFY THE EXACT SOURCE OF MILK SUPPLY.

"*November 24th, 1905.*

"Dear Sir, Circumstances have drawn my attention to the difficulty which arises in identifying the original source of milk distributed in the town, especially in the case of large dairies obtaining milk from a number of different farms. It may be within your knowledge that occasionally, though rarely in the experience of Brighton, infectious diseases such as Scarlet Fever, Diphtheria and Typhoid Fever, have been spread by milk supplies. In order to enable the Sanitary

Authority to ascertain the true facts in any case of suspicion, dairymen are under a legal obligation (Section 55 of the Brighton Improvement Act, 1884) to furnish when required a full and complete list of their customers to the Medical Officer of Health. It is obvious, however, that if enquiries were made at each house named on a list thus furnished, some risk would arise of damaging the business of the dairyman, and the above powers have therefore been seldom utilised. When utilised, or even if the necessary information were obtained otherwise, the result would, when infection is traced to a given milk supply, be that the entire supply by a given dairyman or Company would need to be stopped; whereas if the method which I am about to suggest were universally adopted, it would at the worst scarcely ever be necessary to stop the milk from more than one farm, and this could be done with the utmost privacy, without any injury to the trade.

"The method to which I allude is one already used at my suggestion by some dairymen in the town, and one which has been found to be of great utility in the interest of the Public Health, and has obviated serious expense and loss of custom for the dairymen who have employed it.

"The method consists in ear-marking the source of the milk distributed in each round by each milk carrier, and recording the facts day by day. It implies also that the milk from different farms will not be mixed. When this method has been adopted it is easy to place one's finger at once on a source of infection, to visit the farm or other place in which the infection has originated, and by this means to prevent more than a minimum amount of disorganisation of business, as well as a minimum amount of infection.

"I venture to ask your co-operation in introducing into your business the above method of *booking each day the source from which the milk in each milk-round is derived*, and thus insuring your business against disturbance, as well as co-operating in preventing the introduction of infection into the town.

"Believe me,

"Yours faithfully,

"ARTHUR NEWSHOLME, M.D.,

"*Medical Officer of Health.*"

DIPHTHERIA.

The incidence of diphtheria in Brighton, since notification came into operation, is shewn in the following table :—

	Number of cases per 100,000 of population.	Number of deaths per 100,000 of population.	Case-mortality. Number of deaths per 100 cases notified.
1892	93	20	20·2
1893	157	30	18·4
1894	109	22	21·1
1895	172	16	8·8
1896	142	17	10·9
1897	154	10	6·5
1898	313	18	5·8
1899	547	51	9·2
1900	554	58	10·2
1901	567	52	9·1
1902	349	29	8·3
1903	326	26	7·8
1904	213	13	6·0
1905	174	4	2·2

The steady fall in the death-rate from this disease is gratifying, so low a death-rate as that of last year not having been reached since 1880. The number of cases has not declined quite proportionately to the number of deaths. This is partly owing to the fact that bacteriological diagnosis now discovers cases of diphtheria which in past years escaped unnoticed.

Doubtful Return Case.—I. T., æt $3\frac{10}{12}$, admitted Sanatorium July 3rd, on 2nd day of an attack of diphtheria, implicating throat and nose. He was sent home on 14th September, with slight water nasal discharge, three consecutive swabs having shewn only Hoffman bacilli. On 26th September, W. G., a boy who played with B. T. brother of I. T., failed with diphtheria, and on examining the latter and his mother, Mrs. T., both showed diphtheria-bacilli in their throats. There was no definite evidence of diphtheria in either of these, and the nature of the association between the cases is still open to doubt.

Protracted Infection.—The following case illustrates very well the protracted duration which characterises certain cases, whether treated at home or in hospital.

S. R. æt 5, failed with "sore throat" on September 26th, '04, but no doctor was called in. He returned to school October 3rd and 4th, and the fact that he had been ill was not discovered until his brother, F. R., failed with diphtheria on October 4th and his sister, F. R., on the 5th. All three children were kept at home. On November 24th S. R. still had Klebs-Lœffler bacilli in his throat, and these persisted as shewn by six examinations made between December and March. The sister, F. R., had a positive swab until April 15th, and the brother, F. R., until March 4th. Subsequent swabs from these two proving negative, they were released from their isolation, and S. R. isolated alone. As infection persisted in his throat, and the school-life of the other children was being interfered with, S. R. was admitted to the Sanatorium on July 27th, apparently well, but having very large tonsils. Tonsillotomy was done. He was sent home on October 14th, still having positive swabs, being kept away from other children. The first negative swab obtained was on December 20th, '05, *i.e.*, about 15 months after the onset of his illness. He had been in the country between October 13th and December 20th, and the exact date when his throat ceased to harbour diphtheria-bacilli cannot, therefore, be given.

Multiple Cases in Houses.—Of the total 221 cases notified, there was one case each in 169 private houses, two cases each in 12 houses, three cases each in 12 houses, and in one house four cases.

ENTERIC OR TYPHOID FEVER.

The incidence of enteric fever, since notification came into operation, is shown in the following table :—

	Number of notified cases per 100,000 of population.	Number of deaths per 100,000 of population.	Case-mortality Number of deaths per 100 cases notified.
1892	54	7	12·7
1893	65	13	19·5
1894	69	9	13·0
1895	72	12	16·6
1896	101	12	11·2
1897	94	17	18·1
1898	105	15	14·3
1899	148	20	13·7
1900	67	10	14·4
1901	37	5	13·0
1902	52	11	21·5
1903	31	3	10·3
1904	27	5·5	20·6
1905	27	1·6	5·9

Of the 34 total cases which were notified, three subsequently proved not to be enteric fever. Of the remaining cases, ten were imported, *i.e.*, due to infection derived while the patient was living away from Brighton. Five were caused by personal infection, one being secondary to an imported case, and two to cases the source of which could not be discovered, and two to unnotified and unrecognised cases.

In nine other cases the source of infection could not be traced. In one of these the patient died before information could be obtained.

Seven cases were probably due to infected oysters or mussels. *Case 1* was a publican, who frequently bought oysters and mussels from customers, which were derived from Southwick. *Case 2*, on or about 20th February ate a number of imperfectly cooked mussels. On the 26th February he also ate oysters. Both the mussels and oysters came from Southwick. He failed with enteric fever on March 5th. *Case 3*, a cook, died before full information could be obtained. She fell ill with enteric fever about May 10th, and on or about April 23rd had bought and eaten oysters at a shop off the Western Road. In each of the above cases no sanitary house defects were discovered, and no evidence of infection except from the shell-fish was obtainable. A *4th Case* was the proprietor of an oyster shop, whose son had enteric fever in 1904. This patient has probably had enteric fever three times, the first attack 14 years ago when he had an illness of six weeks duration, thought to be influenza. The second attack was in 1895, when he was again thought to have influenza and was three weeks in bed, and afterwards three weeks in the country convalescing. The third or present attack began in February, 1906. He was an oyster and mussel vendor at the time of each of these attacks, and although reluctant to do so, admitted that occasionally he ate oysters. He got his oysters from Southwick.

In a 5th case there was suspicion respecting shell-fish. F. W., a young man, aged 17, failed with enteric fever on July 16th. He was an assistant at a fried fish shop at which were sold winkles. The winkles came from Billingsgate and were washed and cooked after arrival. The patient could not be interviewed, and no further facts could be ascertained.

A 6th case was probably due to mussels, raw mussels having been eaten on April 21st, and diarrhœa having started on the 24th, followed by general malaise, which continued until 15th June, when he was admitted to the Sanatorium. The facts indicate that he had a mild attack of enteric fever before admission and that the attack which he had after admission to the Sanatorium was a relapse.

In a 7th case the introduction of mussels into the affected household was the only fact which could be discovered having any bearing on the probable source of the infection. M. N., æt 10, failed with enteric fever on January 16th, and was admitted to hospital January 23rd. He was still there when 34 days later his mother fell ill with the same disease. On the 1st January she ate a quantity of raw mussels. There were six other members of the household who ate no mussels, and all excepting M. N. remained well. No other source of infection was discoverable. I am unable to say whether—notwithstanding negative information on this point which was received—the mother had a slight attack of diarrhœa and even of enteric fever before M. N.'s attack and infected him, or whether possibly M. N. was infected by mud from the mussel shells, which are derived from what is practically a sewage bed.

WHOOPING COUGH AND MEASLES.

The death-rate from these two diseases shews marked variations from year to year as indicated in the following table:—

Annual Death-rate per 100,000 inhabitants from Measles and Whooping Cough.

Year.	Measles.	Whooping Cough.	Year.	Measles.	Whooping Cough.
1882	143	115	1894	30	12
1883	51	57	1895	20	34
1884	7	33	1896	46	27
1885	31	41	1897	14	21
1886	10	60	1898	67	18
1887	64	28	1899	1	16
1888	3	43	1900	43	28
1889	40	24	1901	10	21
1890	53	89	1902	24	23
1891	24	18	1903	4	12
1892	160	19	1904	71	28
1893	12	47	1905	2	9

I reported very fully on the subject of Measles in my last report, to which reference may be made. The number of cases of whooping cough reported during the year by school teachers was 81, of measles 21. The cases of measles occurred chiefly at two schools, and in each of these schools the first patients had been in contact with measles patients from London.

DIARRHŒA.

During 1905, the number of deaths certified under the various headings which are now classed as Epidemic or Summer Diarrhœa was 44. Of these, 33 occurred under one year of age and 5 over 20 years of age. Two of the deaths occurred in the Children's Hospital, the patients having been admitted from outside Brighton. In addition 26 deaths were ascribed to Enteritis, of which 18 were under one year of age. The seasonal incidence of these deaths is shewn in the table on page 16. The close resemblance between the seasonal incidence of the two, supports the view that in the main they are one disease.

In the following Table the deaths from diarrhoea are given in terms of the births, as being the nearest approach to the infantile population among whom the deaths from diarrhœa chiefly occur.

	Deaths per 1,000 Births.		Deaths per 1,000 Births.
1891	15·5	1899	62·5
1892	23·0	1900	32·2
1893	29·2	1901	28·9
1894	17·0	1902	16·3
1895	33·7	1903	16·4
1896	24·1	1904	18·3
1897	28·8	1905	15·2
1898	42·7		

Effect of Meteorological Conditions.—The weather conditions of the summer doubtless favoured a low death-rate from diarrhœa, being somewhat similar to those in the two preceding summers. In the five months June to October in the three years 1903-05, the number of deaths from diarrhœa was 45, 48 and 30 respectively. The inches of rainfall in the corresponding periods of these three years were 18·9, 7·2 and 10·8, the number of rainy days 84, 60 and 64; the mean temperature of the air 58·9°, 59·6° and 57·7°. The 4 ft. earth temperature reached 56° F. on June 1st in 1903, on the 12th in 1904, and on the 15th in 1905. The diarrhœal mortality shewed no relationship to this fact.

Food and Diarrhœa.—As repeatedly shewn in these reports diarrhœa is most often fatal in hand-fed babies. To test this point, the inspectors in their house-to-house visits in all the industrial districts have, during the past three years, noted the method of feeding of each baby under one year of age in the house under visit. The results for these three years are set forth in the first four columns of the following table. The information, especially during last year has been very carefully collected. The contrast between babies who are suckled only and hand-fed babies in respect of diarrhœa is very striking.

Methods of Feeding Infants under One Year of Age in Brighton.

	A.—Census of 10308 Houses in house-to-house inspection in the 3 years, 1903-05.				B.—Infants who died from Epidemic Diarrhœa in the 3 years 1903-05.			
	Age of Infants in Months.				Age of Infants dying in Months.			
	0-3	3-6	6-9	9-12	0-3	3-6	6-9	9-12
I.—Suckled only	271	237	186	92	5	3	—	—
Ditto and farinaceous food	14	29	41	69	1	1	—	1
Ditto and cow's milk ...	5	6	7	4	1	—	—	—
Ditto and condensed milk	3	6	7	1	1	—	—	—
II.—Cow's milk only ...	12	32	28	18	11	22	7	4
Ditto and farinaceous food	4	26	33	33	1	—	4	6
III.—Condensed milk only ...	6	12	10	11	2	16	12	7
Ditto and farinaceous food	2	6	10	7	—	3	—	1
IV.—Farinaceous food, including patent food only mentioned, or same food as parents	4	1	2	18	1	1	—	—
V.—Unknown	—	—	1	5	2	4	2	2

The full significance of these figures can be more easily recognised when they are thrown into percentages as in the following Table : –

PERCENTAGE OF INFANTS UNDER ONE YEAR OF AGE FED IN DIFFERENT WAYS.

	A.—In 10308 houses visited house to house (1259 infants).	B.—Among Infants dying from Epidemic Diarrhœa (122 infants).
I.—Suckled only	62·3	6·5
Ditto and farinaceous food ...	12·1	2·5
Ditto and cow's Milk	1·8	1·7
Ditto and condensed milk ...	1·4	0·8
II.—Cow's milk only	7·2	36·0
Ditto and farinaceous food ...	7·6	9·1
III.—Condensed milk only	3·1	30·3
Ditto and farinaceous food ...	2·0	3·2
IV.—Farinaceous foods only mentioned	2·0	1·7
V.—Unknown	0·5	8·2
	100·0	100·0

In this table the babies are stated in proportion to the kind of feeding and the corresponding proportion of deaths from diarrhœa. The main items are three ; the remaining items may be ignored as representing only small figures. These three are as follows – (1) *Breast fed only :* these babies had only about *one-tenth* of the number of deaths from diarrhœa that ought to have occurred, had the deaths from diarrhoea been evenly distributed among all the babies.*

(2) *Fed on Cow's Milk :* these babies had *five times* as many deaths from diarrhœa as they ought to have had on the same supposition.

(3) *Fed on Condensed Milk :* these babies had *ten times* as many deaths from diarrhoea as they ought to have had on the supposition of equal distribution of deaths.

If it be assumed that methods of feeding exercise a predominant influence on the health of babies it follows that it is nearly twice as dangerous to feed an infant on condensed milk as on fresh cow's milk ; while it is nearly fifty times as dangerous to feed an infant on cow's milk and a hundred times as dangerous to feed an infant on condensed milk as on mother's milk. It should be noted that the condensed milks were nearly always sweetened milk, of what are usually regarded as the best brands.

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* This is on the highly probable assumption that the sample infantile population enumerated in the first four columns of the table on page 26 is fairly representative of the population among which the deaths from diarrhœa occurred.

In view of the importance of this subject a limited bacteriological investigation has, during the past year, been carried out on condensed milks in the municipal laboratory with the results shewn on page 44 *et seq.*

Amount of artificial feeding.—Condensed and fresh cow's milk being so much more dangerous than breast feeding for infants, special interest attaches to the fact that out of 1,259 infants found in visits among the poor 978, or 77·6 per cent. were breast-fed, or breast-fed along with other food, and 62·4 per cent. of the total number were breast-fed only. This refers to the whole of the first year of life. If we confine our attentions to the first six months of life 75·1 per cent. of the total babies had no food except the breast, and during the next three months of life 57·2 per cent. were breast-fed only. These figures are much more satisfactory than one's preconceptions. A certain allowance must be made for mothers unable to suckle their babies; when allowance for this and for other unavoidable difficulties is made it is satisfactory that three out of every four mothers in the poorer houses of Brighton carry out the first duty of motherhood during the first six months of their babies' lives. Unfortunately we have no corresponding figures relating to say twenty years earlier for comparison. Apart from the laudable ambition of all right-minded mothers to fulfil the duty of motherhood, there is the additional motive that breast-feeding is cheaper than feeding on condensed milk, and still more so than feeding on fresh cow's milk or any of the patent foods which are so harmful. It is probable that there has been much exaggeration as to diminution of breast feeding among the masses of the population.

Breast-feeding and Diarrhœa.—We have seen that 75·1 per cent. of the babies under six months of age are fed exclusively from the breast. We have seen also that breast-fed babies under six months of age have 10·7 per cent. of the total deaths from diarrhoea, or one seventh the number they should have on the supposition of uniform distribution of such deaths. Breast-feeding is thus an immense safeguard against death by diarrhoea. It is not a total safeguard, which is not surprising if, as urged in several of my past annual reports, domestic infection in the main is the cause of diarrhoea. Breast-fed babies may suck infective organic matter apart from food, for instance from dirty fingers, from dirty dummy-teats and in other ways.

The teaching of the tables on pages 26 and 27 is not exhausted by the preceding remarks. Special importance attaches to the babies aged 6 to 9 months. If these are breast-fed it is certain that they have had the advantage of being breast-fed from birth. There were 241 such babies aged 6 to 9 months among the total 325 total babies of these ages found in house-to-house inspections. But of the total 25 deaths from diarrhoea at ages 6-9 months in the three years 1903-05, not one occurred among breast-fed babies, or babies in whom breast-feeding was used along with other food. The importance of continuous breast-feeding could not be more forcibly shewn than by these figures. Attention has already been drawn to the advisory cards on this point which have been freely distributed among mothers (printed on page 11).

The above facts as to the babies aged 6-9 months naturally open up the question of the relationship of breast feeding to the death of the 8 babies who were breast-fed only and the 4 other babies partially breast-fed who died from diarrhoea in the last 3 years. One conclusion is justified and a second suggested. (1) As mother's milk is sterile, milk is not the only vehicle for the infection of diarrhoea (2) Among the artificially fed babies it is possible, and even likely, that the milk or other artificial food was not the sole vehicle of infection. The effect of artificial feeding must be regarded as complex. Artificial foods at their best do no more than than approximate breast-milk in nutritiveness and digestibility. The baby thus fed is made ready for any outside infection by indigestion and by the catarrhal conditions of the alimentary canal provoked by unsuitable food. The bottles and tubes used in artificial feeding and the storing of milk and of condensed milk after the can is opened, lead to domestic infection by means of dust and flies, in these babies thus enfeebled by artificial feeding.

The case of condensed milk is particularly instructive.

The special dangers of Condensed Milk for Infants.—This danger does not arise from the cheaper brands of condensed milk being chiefly used, and therefore not from the use of machine-skimmed milks, which would doubtless be still more injurious. During the three years 1903-05, 36 babies fed solely on condensed milk died from diarrhoea. Of these 33 were fed on Nestle's, one on Gallias condensed milk, 1 on condensed milk of the Milkmaid brand, and one on condensed milk of an unknown brand.

It is likely that the use of such a highly sugared food is detrimental to infants fed on it alone, and it is well-known that preserved foods if taken alone may cause scurvy-rickets. This is liable to happen whether babies are fed solely on patent foods or on condensed milk. These facts do not appear alone to suffice to explain the greater liability to diarrhoea of babies fed on condensed than of those fed on fresh cow's milk. Nor do the laboratory results detailed on page 44 clear up the matter. In original bacterial contents, condensed milk compares favourably with fresh milk. In attraction for flies and in exposure to dust in the home it compares very unfavourably with fresh milk. The evidence all confirms the conclusion formulated in my Annual Report of 1899 and in subsequent reports that both in relation to condensed and fresh cow's milk, the infection of diarrhoea (just as in infants fed by the breast or by patent food without cow's milk) has a domestic origin, and is due to domestic dirt.

More attention has been paid in recent years to the cleaning of yards and to the more frequent removal of house refuse. Still further stringency is required in the regulation of stables and mews. In the essential question of scrupulous domestic cleanliness, much still remains to be done.

Addendum.—It is conceivable that the excess of diarrhoea among babies fed on condensed milk might be at least partially owing to the fact that condensed milk is cheaper when diluted as directed on the tins than fresh cow's milk. This might conceivably have led to its being used to a greater extent by extremely poor mothers, in whose houses the sources of domestic contamination would be likely to be more abundant than among those who are better off. A detailed investigation of the 96 babies dying from diarrhoea during 1902-05, who were fed wholly or partially on condensed or fresh cow's milk does not show any excess of poverty among those fed on condensed milk. The table on page 26, shows that about three times as many babies were fed (in houses visited apart from sickness) on fresh milk as on condensed milk. This must be borne in mind in the following examples of social position among babies dying of diarrhoea :—

Deaths from Diarrhœa in the babies of	Condensed Milk.	Cow's Milk.
Labourers	6	10
Domestic Servants	5	7
Artizans	8	15
Persons above artizan class ...	5	8
All others	17	15
	41	55

TUBERCULAR DISEASES.

In the following table the registered death-rate from pulmonary tuberculosis or phthisis and from other tubercular diseases for a series of years is shewn :—

Mean Annual Death-Rate in Brighton from Phthisis (Consumption) and other Tubercular Diseases per 100,000 persons in Groups of Years.

	Phthisis.	Other Tubercular Diseases.
Ten years, 1861-70	295	98
Ten years, 1871-80	247	78
Ten years, 1881-90	193	74
Four years, 1891-94	150	82
Four years, 1895-98	149	63
Four years, 1899-1902	140	44
1903	145	52
1904	136	67
1905	135	54

Owing to the fact that a larger proportion of the Brighton population than that of England and Wales is at the ages most susceptible to phthisis, a correction factor ·9267 is needed. When this is multiplied into the above death-rate, the corrected death-rate is 126.

In my last report I drew attention to the value of segregation of advanced cases of phthisis in the infirmary in the prevention of infection, and I have read papers discussing the same subject from a wider standpoint at the Paris Congress and the Epidemiological Society. During 1905, 29 of the total deaths from phthisis or 16·8 per cent. occurred in large institutions. The average number of days spent in the Workhouse Infirmary by patients having phthisis during the eight years 1897-1904 was 221 days, including those still in the Infirmary, or 175 days without these.

NOTIFICATION OF TUBERCULOSIS OF THE LUNGS (PHTHISIS).

Voluntary notification of phthisis by medical practitioners was begun in January, 1899, no payment being then made for such notifications. Between that date and September 11th, when the new arrangement came into operation to pay for each case of phthisis notified, in private practice 2s. 6d., and in public practice 1s., 70 cases were notified. The course of notification is indicated in the following Table:—

Year.	No. of New Cases Notified.	No. of Cases Re-notified.	New Cases Notified per 100,000 of Population.	No. of New Cases Treated in the Borough Sanatorium.	No. of Annual Deaths from Tuberculosis in Brighton.
1899	111	—	92	—	215
1900	105	—	85	—	232
1901	153	9	124	—	237
1902	224	52*	179	31 (from May)	227
1903	316	82†	251	98	248
1904	363	85‡	286	130	259
1905	308	102**	242	129†	241

It would appear as though we had reached the high-water mark of notifications under our present voluntary system. This being so, it is interesting to compare the number of notifications with those obtained in other towns having a similar system and in Sheffield, in which since November 1903 the notification of cases of phthisis has been made obligatory.

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† Not including 6 re-admissions.

* 17 of these had been originally notified prior to, and the rest in, 1902.
† 37 " " " " " " 1903.
‡ 36 " " " " " " 1904.
** 59 " " " " " " 1905.

New Cases of Phthisis notified per 100,000 of population in—

	Brighton.	Sheffield.	Manchester.	Liverpool.
1904	286	281	215	236
1905	242	168	223	248
For every 100 deaths from Phthisis in 1904 the number of new cases of Phthisis notified was	209	160	119	116

The falling off of notifications in Sheffield and the slighter falling off in Brighton are doubtless due in part to the fact that chronic cases of phthisis have already been notified, and that recent notifications contain a larger proportion of recent cases than formerly.

Details as to Notifications.—The preceding table gives comparative statistics for seven years. Re-notifications occurred in 102 instances in 1905, 73 cases being re-notified once, 22 twice, 6 three times, and 1 seven times during the year.

During the year, 438 notifications of consumption were received, 98 in private practice, 180 in public practice, 97 reported by relieving officers, 10 by relatives, 38 by the Master of the Workhouse, 15 by the Medical Officer of Health. The fees paid for notification were £25 3s. 6d.

Stage of Disease at which Notification occurs.—Eight cases were notified less than a week before death, 13 between 1 and 4 weeks before death, 15 from 1-2 months, 7 from 2-3 months, 6 from 3-4 months, 6 from 4-6 months, and 6 from 6-12 months before death. In accordance with the circular letter to practitioners, the notification of moribund cases is deprecated, and fees are not payable for such cases. Of 308 total cases notified for the first time during 1905, 70·8 per cent. are still alive (February 13th, 1906) as compared with 50·3 per cent. of the cases notified in 1904 on February 22nd, 1905.

Proportion of the Disease imported. Brighton being a health resort, it receives a large number of inhabitants in failing health, not only among the well-to-do, but also among small shop-keepers and the industrial classes, who hope under the favourable conditions of Brighton to regain their health.

Of the 172 deaths from phthisis in 1905, the disease was already present in 34 when the patients came to Brighton; 11 of these patients were notified before death.

Of the 308 notified cases, 31 in addition to the above 11 fatal cases, were already ill when they came to Brighton. Thus the total known imported cases in the year was 65.

Of the 69 deaths from other tubercular diseases, 11 were definitely ill on arrival in Brighton.

Thus, in about 19 per cent. of the deaths from consumption and 14 per cent. of the notified cases of this disease, the illness was acquired elsewhere than in Brighton.

Of the 308 cases notified during last year, 59 died at home, 6 in the Workhouse Infirmary (as well as 16 unnotified cases), and 23 have left the town, and 13 have gone to unknown addresses.

Notifications of *changes of addresses* were received respecting 20 patients, enabling prompt disinfection to be done. In 9 other instances notified patients removed once, and in four instances notified patients removed twice during the year, and disinfection was done, but owing to lack of notification not always promptly.

Disinfection.—In 161 notified cases houses were disinfected after removal of the patients to the Sanatorium or elsewhere. In 134 instances rooms, and in three instances the whole house, were sprayed with formalin. In 11 instances walls of rooms were stripped, cleansed and ceilings whitewashed, and in 25 instances this was done for the whole house. In 46 instances the rooms, and in 16 instances the whole house, were thoroughly cleansed by the tenant or owner; in 22 instances the bed ticks, &c., were washed by the tenants, and in 127 instances the bedding and clothing were disinfected by saturated steam under pressure.

After deaths from Phthisis and other tubercular diseases disinfection was carried out in 158 houses. In 130 cases rooms were sprayed. In 75 instances rooms, and in five cases the whole house, were stripped, cleansed and whitewashed, in 33 instances the rooms were thoroughly cleansed. In 17 cases the bedding or clothing was burnt, in 74 the bed ticks, &c., were washed, and in 119 the bedding was disinfected by steam. Personal apparel was similarly treated.

The sanitary defects found and remedied in connection with visits to cases of and deaths from phthisis and other tubercular diseases are given in other tables.

CO-ORDINATION OF LOCAL MEASURES AGAINST TUBERCULOSIS.

Questions are frequently asked as to measures adopted in Brighton against tuberculosis, and for this reason, as well to place on record an annual statement of what is done, I take this opportunity of stating our methods of action, to some extent in chronological order in accordance with the length of time during which they have been practised.

1. *Disinfection of bedrooms in which phthisical patients have died.*—The procedure adopted commonly includes spraying with formalin vapour, stripping and burning the wall paper, and steam disinfection of bedding, carpets, &c., followed by scrubbing and cleansing of walls and floors. The number of houses thus treated in 1893 was 56, the number of disinfections after death from phthisis in subsequent years being equal to the number of deaths from that disease.

2. *A sanitary inspection* of the house in which the fatal case occurred has been made, and any defects discovered have been remedied.

3. *A system of voluntary notification of cases* of phthisis was organised in January, 1899 (see page 31). The number of cases notified under this system, as shewn on page 31, is larger in proportion to population than in any other English town. For the success of this work, we are largely dependent on the co-operation of the medical staff of the County Hospital, of the Children's Hospital, and of the public Dispensaries and Poor-Law, as well as a number of private practitioners. To private practitioners a fee of 2s. 6d. and to those engaged in public practice a fee of 1s. for each notified case is given. A number of cases are also notified by relieving officers and others. The distribution of the cases in regard to private or public practice is shewn below for each year :—

	1905	1904	1903	1902	1901	1900	1899
Number of Notifications of Phthisis Private Practice...	98	93	78	62	51	48	113
Public Practice ...	180	233	218	128	80	56	
By Medical Officer of Health	15	8	6	1	—		
By Relieving Officer and Master of Workhouse	135	118	100	75	29	—	
By relatives	10	13	12	16	2	—	—

4. Action has not been confined to notified cases. Many doctors who do not wish to notify their patients, arrange for disinfection, and use the "*Precautionary Cards*," which are supplied free.

5. *The examination of sputum is done gratuitously* for all doctors in the town in our municipal laboratory. The address of the patient is asked for respecting each sputum, but the patient is not regarded as having been notified, unless the doctor has the consent of the patient to do this, and the only action necessarily resulting from the

examination of the sputum, is that the family practitioner is in a position to urge precautionary measures on his own part. These examinations were begun in 1897, and the appreciation in which they are held is shewn in the following table :—

Table showing the Number of Specimens of Sputum examined in the Municipal Laboratory.

Year.	Town.	Sanatorium.
1897-98 (14 months)	21	—
1899	47	—
1900	86	—
1901	125	—
1902	146	23
1903	227	111
1904	284	188
1905	279	104

The number of town specimens is practically the same in 1905 as in 1904. Early this year the system was started of examining three samples of every specimen of sputum submitted for examination, instead of two as before. This has resulted in a higher percentage of positive certificates, and a diminished necessity on the part of the practitioner to send further specimens from the same patient.

6. *Every notified case is visited at home* by the house physician of the Sanatorium, and the history of the illness is obtained, and full particulars on all points bearing on the origin and prevention of infection are noted. A very large proportion of these cases are also *interviewed* a second time by me *at the Town Hall*, in connection with their proposed admission to the Sanatorium, and further facts bearing on preventive measures thus obtained.

7. Each patient has given to him a card detailing "Precautionary Measures," and *exact verbal instructions are also given for the prevention of infection* by spitting or coughing.

8. *Japanese handkerchiefs and pocket spit-bottles* are also provided gratuitously to those patients requiring them.

9. *The patient is subsequently visited at three-monthly intervals* by a Sanitary Inspector, Mr. Ward, who has carried out this work tactfully and skilfully. At these visits the condition of the patient and of the house is ascertained, and special enquiry is made as to whether any other members of the household suffer from cough with the object detailed under heading 16.

10. The action taken in regard to the patient's house varies according to circumstances. Disinfection is done whenever any change of address is known, and any defects are remedied.

11. There is no interference whatever with the patient's occupation, or with his method of spending his evenings. Without in any way revealing knowledge of the patient's occupation, opportunity is taken to make an independent *visit to the shop or workshop* in which he is engaged. Nearly every factory and workshop, as well as all the public houses, and many other public places have tablets to the following effect displayed in each workroom:—

PREVENTION OF CONSUMPTION.
You are
Earnestly Requested
to abstain from the
Dangerous habit of
SPITTING.

The same remark applies to public houses, music halls, tram waiting-rooms, and places for lounging on the sea front, &c.

In certain factories, upholsterer's workshops, &c., the conditions as to dustiness have been greatly improved.

12. When re-visiting phthisical patients in the early days of notification, I became aware that a considerable number of them did not carry out the instructions given them as to spitting. The habits of a lifetime could not be uprooted by ten minutes' conversation. It was this experience which led me in 1902 to urge the Sanatorium training of patients, and since then ten beds in a detached part of our Isolation Hospital have been reserved for this purpose, and as will be seen from the table on page 31, we have passed through our wards up to the end of 1905 388 patients. Each of these has received Open-Air Treatment for at least a month, and has received a thorough drilling in the hygienic treatment of his disease, especially on the use of the pocket spit-bottle. I regard this as the most important work in the struggle against tuberculosis which we have yet effected.

13. A large proportion of the cases admitted to the Sanatorium are too advanced for cure. They improve in health, and the public gain by the increased safety which they have secured. But eventually some of these patients relapse, become confined to the house, and at last bed-ridden. Then a certain proportion of them drift into the Workhouse Infirmary. It was the investigation of these cases which led me in the first instance to realise *the importance to the public safety of this refuge for advanced consumptives.* There is every reason to think

that the advanced cases are the most infectious of all, in part because they are too weak to be as cleanly as before. It is therefore a matter of supreme importance that about 20 per cent. of the total deaths from phthisis in Brighton occur in the Infirmary, and that the phthisical patients there during the last 8 years spent on an average 221 days each in the institution.

14. *Further extension of accommodation for the treatment of advanced cases*, and particularly of *non-parochial* cases, is urgently needed both for humanitarian and preventive reasons. It will be partially provided when the scheme under the Hedgcock Bequest is completed.

15. It will be noted that in the above scheme of municipal action *the more protracted treatment of early curable cases* is excluded. This omission will be remedied under the above scheme, by setting apart a number of, probably ten, beds for such patients. I must confess, however, that my administrative experience of phthisis leads me to attach much more importance to the Sanatorium training of patients and to the institutional treatment of advanced patients than to the cure of early patients, though this also is important.

16. *Early Medical Diagnosis.*—During 1905 our preventive measures have received an extension to which I attach much importance. At both the first and subsequent visits to notified cases, careful inquiry is made as to any evidence of illness in other menbers of the same household. If such evidence is found, a letter is sent to the family practitioner if the patient can afford to pay a doctor. If not (and the majority of our patients come from hospitals and dispensaries) the new patient is referred to the institutional doctor. The help which can thus be given has been greatly increased by my having had placed at my disposal a considerable number of out-patient letters for the County Hospital. By this means early medical treatment has been secured for many consumptives who might otherwise have been neglected. Each patient sent to the County Hospital is carefully overhauled, and one has confidence therefore that in patients thus examined and treated, early evidence of disease is not overlooked. I hope that we may in 1906 extend this means of detecting early phthisis and securing early treatment on a considerable scale.

17. The Charity Organisation Society and a number of private friends have given most valuable assistance by providing *help for patients discharged from the Sanatorium*, and by passing on suitable patients to other institutions where they could secure more protracted treatment. The after-treatment of patients and the *finding of suitable light work* are two of our greatest difficulties, and I do not at present see what can be done officially in these directions, though there is

ample scope for private philanthropy. In time the matter will settle itself, for with the diminution of the sources of infection through the training of consumptives and the segregation of advanced cases there will be, twenty years hence, a much smaller number of patients needing after-treatment or special occupations. Meanwhile there is much need under these headings.

The preceding 17 paragraphs give an imperfect sketch of our local efforts to organise and co-ordinate efforts for reducing the death-toll from phthisis. One naturally at the end of such a sketch considers what more could be done.

What more could be done? Much more could be done if we knew of every case and knew of it at an early stage of the disease. Would compulsory notification of phthisis help us? I think it would, though the consideration of this point may be postponed for a year or two. It is noteworthy that in Sheffield which has a system of compulsory notification of phthisis the number of cases notified was only 100 for every 65 deaths, while in Brighton it was 100 for every 56 deaths from phthisis during 1905. The clue to this difference is to be found in our Sanatorium provision. Most good can be done for cases among the working classes, and these cases are unhappily not recognised in a very large proportion of cases until the disease has become fatally established, and until much mischief has been done among fellow-workmen. If a skilled overhauling of each patient with persistent and repeated cough could be secured, much earlier diagnosis would be practicable. As matters now stands, large numbers of consumptives are treated winter after winter for "bronchitis," examination of the chest being exceptional and rare in certain classes of practice, and specimens of sputum being seldom submitted for examination.

SYPHILIS.

During 1905, the deaths of five male and five female infants under one year of age, and of one man and two women, were returned as due to this cause. The death returns under this head are immensely understated.

ALCOHOLISM.

During 1905, five deaths of men and four of women were returned as caused by alcoholism or delirium tremens. The deaths of 11 men and 10 women were returned as due to cirrhosis of the liver.

For further remarks on alcoholism, see page 15. The public health aspects of alcoholism as a chief factor in the production of premature old age and poverty were first commented on in my annual report for 1896, and each year has convinced me more and more of its immense importance as our chief social evil.

REGISTERED DEATHS FROM CANCER.

Seat of Primary Disease.	Sarcoma.		Carcinoma.		Malignant Disease or Cancer.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.
Head, Face, Eye, Orbit, Nose, Ear	—	—	1	1	—	2	1	3
Jaws	—	—	—	1	1	—	1	1
Skin	—	—	—	—	—	—	—	—
Axilla	—	—	—	—	—	—	—	—
Mouth, Tongue, Lips	—	—	2	—	4	—	6	—
Neck, Throat, Tonsils, Larynx ...	1	—	2	—	4	1	7	1
Lung, Chest, Mediastinum, Heart	—	1	1	—	—	—	1	1
Œsophagus	—	—	2	—	1	2	3	2
Breast	—	—	—	10	—	11	—	21
Abdomen	—	—	1	1	1	2	2	3
Stomach and Pylorus	1	—	4	5	9	6	14	11
Liver and Gall Bladder	—	—	4	2	4	2	8	4
Peritoneum, Mesentery, Omentem	—	—	—	—	—	—	—	—
Pancreas	—	—	1	—	—	—	1	—
Spleen	—	—	—	—	—	—	—	—
Intestines (excluding Rectum) ..	—	—	1	6	—	3	8	9
Rectum	—	—	2	3	6	2	—	5
Uterus	—	—	—	18	—	10	—	28
Ovaries	—	—	—	—	—	1	—	1
Vulva	—		—	—	—	3	—	3
Pelves, Kidney, Bladder, Prostate Urethra, Penis	—	1	1	—	4	2	5	3
Spinal Cord	—	—	—	—	—	—	—	—
Groin, Leg, Foot	—	1	—	1	—	1	—	3
Parts unspecified	2	—	1	1	—	—	1	1
Total	2	3	23	49	34	53	59	100

The total number of deaths registered as due to the various forms of cancer was 159 last year, as compared with 179, 143, 150, 132, 96, 135 and 114 in the six preceding years. Of the number in 1905, 28 occurred in the Workhouse, 16 in the County Hospital, 1 in the Children's Hospital, and 1 in the Throat and Ear Hospital.

RHEUMATIC FEVER.

During 1905, the number of deaths registered as caused by this disease was six.

The number of cases of this disease annually admitted to the County Hospital gives a better idea of the varying amount of this disease, and the following Table is therefore inserted at this point:—

	Number of Admissions to the Sussex County Hospital of patients suffering from		Brighton. Number of Deaths from Rheumatic Fever and Rheumatism of Heart.
	Acute Rheumatism.	Sub-Acute Rheumatism.	
1900	60	8	9
1901	44	11	9
1902	47	12	5
1903	22	8	5
1904	40	10	6
1905	18	10	6

PUERPERAL FEVER AND ACCIDENTS, &c., OF CHILDBIRTH.

During 1905, four deaths from puerperal fever were registered, and two to other diseases of child-birth and pregnancy. Nine cases of puerperal fever were notified during the year.

THE ADMINISTRATION OF THE MIDWIVES' ACT, 1902.

Under this Act, the names of 85 midwives are given in the Midwives' Roll for 1905, as living in the County Borough of Brighton, and 27 in Hove. Of the above 112, twelve gave their address at the Brighton Infirmary. At that time a number of midwives were being trained there. At present only two midwives are employed at the Infirmary. Six were working in connection with the Lying-in Institutions (two in Hove), four at the County Hospital, five Queen's Nurses, and four at a private nursing institution. Only the Workhouse and Lying-in Institution midwives are actively engaged in midwifery (six in Brighton), and these attended last year 785 confinements, or about 27 per cent. of the total births in Brighton. The fact that this large number is attended by competent trained midwives, reduces considerably the necessary scope for official supervision. We have no data as to what proportion of the remaining 2,126 births in Brighton are attended by the 81 midwives living in Brighton and Hove and probably practising to some extent in both towns, and what proportion by medical men. Up to the end of 1905, 23 midwives have notified to the Local Authority their intention to practise as midwives within the County Borough. Up to the middle of February, 1906, only 11 of the above 23 have, in accordance with sec. 10 of the Midwives' Act, given notice of their intention to continue to practise within the Borough. Of these, six are engaged in the work of the Lying-in Institution. This institution, during 1905, attended 785 maternity cases out of a total 2,911 births in the Borough.

Correspondence took place during the year with the Midwives' Board, as to the conduct of a nurse attending a malignant case of Puerperal Fever, but the Board held that the midwife in question was covered by the practitioner in attendance.

In accordance with sec. 8 (5) of the Midwives' Act, a copy of the names of all midwives who, during 1905, have notified their intention to practise in Brighton has been sent to the Midwives' Board.

No notifications have been received during 1905 (in accordance with Rule 18) as to deaths, still-births, or infectious diseases from midwives.

A circular letter has been sent to every midwife known to practise in Brighton (February, 1906) drawing attention to the requirements of the Act and the Rules under it, as to the keeping of books and notes of cases, and the notification to me of all cases under Rules 18 and 19. The opportunity has been taken to send a number of copies of the leaflets as to the Management and Feeding of Babies, with a promise to supply further copies as required.

WORK OF MUNICIPAL LABORATORY.

The work of this laboratory commenced in November, 1897. The work in connection with it has greatly increased, as shewn by the following Table :—

		1897-8 (14 mths.)	1899	1900	1901	1902	1903	1904	1905
Widal Grüber Test for Enteric Fever...		164	153	95	88	103	106	98	92
Bacteriological Diagnosis of	Diphtheria	414	2033	2191	2962	2537	3559	3107	2573
	Phthisis ...	21	47	86	125	169	338	472	383
	Ringworm		—	—	—		—	—	46

Diphtheria.—The specimens examined for diphtheria comprised 1,045 specimens from patients at home, many of whom were subsequently admitted to the Sanatorium, and therefore appear again in the hospital group next considered. Of the home specimens 65·1 per cent. were negative, 30·6 per cent. positive, 3·1 per cent. doubtful, and 1·2 per cent. showed no growth.

Of the total 1,528 hospital cases, 250 related to cases of diphtheria when first admitted. Of these, 30·8 per cent. failed, on admission, to show the diphtheria-bacillus. Before discharging a diphtheria patient, three, or at least two, negative swabs are obtained in every instance. 930 swabs were examined from patients about to be discharged. When any nasal discharge was present, nasal as well as throat swabs were examined.

Scarlet Fever and Diphtheria.—Every patient admitted with scarlet fever was examined, on admission, for the presence of diphtheria-bacilli, in accordance with our practice for several years. 348 swabs were examined from scarlet fever patients in the Sanatorium, and of these specimens 77 showed diphtheria-bacilli. These related to 33 patients. Of this number all, with one possible exception, had diphtheria-bacilli in their throats as well as scarlet fever, when admitted. Only 4 of these showed clinical signs which would have made one suspect the possibility of diphtheria. The examination enabled the patients with mixed infection to be at once separated from the unmixed scarlet fever cases, and thus probably prevented outbreaks of post-scarlatinal diphtheria. The presence of diphtheria-bacilli in the throats of so many children who do not suffer from diphtheria, and the fact that this coincidence, on such a scale, in my experience has only occurred at the end of a local epidemic of diphtheria, suggests the likelihood that, towards the end of an epidemic of this disease, many children become immunised by the antitoxins self-produced as the result of minute invasions of diphtheria-bacilli.

Enteric Fever.—83 specimens of blood were sent by practitioners, and the blood of 9 hospital patients was examined. Of the 83, twenty showed evidence of enteric fever.

Ringworm.—A new departure during 1905 has been the examination for practitioners of specimens of hair suspected to be infected with ringworm. This has been done to aid the early recognition of this extremely contagious disease, and thus secure the exclusion of the affected scholar from school; also to facilitate early treatment, and the earlier return to school than would otherwise be practicable.

During 1905, 27 specimens from the town were examined for ringworm, and 19 from patients when admitted to the Sanatorium for scarlet fever and diphtheria. Of the 27 town specimens, 16 were submitted by the school-nurse, as the result of her examination of suspected children at school.

Opsonic Index in Phthisical Patients.—Commencing in August, 61 patients in the Sanatorium were examined for opsonic index. This is a method of ascertaining the power of each patient's blood serum to aid the ingestion of tubercle bacilli by blood corpuscles of a normal person, as compared with the corresponding power of the serum of a normal person. Altogether 149 counts were made of specimens from drops of blood of the above 61 patients. The general results of these observations cannot as yet be fully stated; but they appear to indicate that the test will not be such a satisfactory means for estimating the prospects of each patient, as at first was anticipated.

Water Analyses.—Careful records are kept of all the analyses made of the water supply, and we are thus accumulating a long series of standard analyses for reference, by means of which any temporary departure from normal conditions can at once be checked. It need hardly be said that the water in use from each of the sources of supply is extremely pure. The number of analyses has been as follows:—

Number of Samples examined.	Chemically.	Bacteriologically.
Lewes Road	13	12
Goldstone	16	13
Mile Oak	12	14
Shoreham	12	13
Patcham	12	12
Total	65	64

Hardness of Brighton Water.—The remark so frequently made that Brighton water is exceptionally hard, indicates the desirability of an exact statement on this point.

The average hardness of each of the wells from which water was being supplied at the end of the year was, Shoreham 14·2, Patcham 13.1, Mile Oak 13·4, Goldstone 14·4 grains per gallon. This means that the Brighton water is no harder and is usually softer than the river water supplying London, and is much softer than the deep-well water with which some parts of London are supplied.

Miscellaneous Examinations. Several specimens of urine were examined for typhoid-bacilli, one for gonococci, and other miscellaneous examinations were made.

An outbreak of enteritis in a cricketing team who had lunched together was investigated. The absence of Gaertner bacilli and allied organisms, which are often associated with such outbreaks was demonstrated. A paracolon bacillus was isolated from the ham eaten at the lunch which gave the following reactions; ferments glucose and lactose, no coagulation of milk but some acid formation, fluorescence in neutral red medium, no liquefaction of gelatine, indol freely produced, non-gram staining, motile. The investigation of the preparation of the food rendered it probable that infection was conveyed to the food by a servant who was ill at the time.

Examination of Milk.—During the year I arranged for Dr. Heggs to carry out at the Municipal Laboratory an examination of a number of samples of milk as to their bacterial contents, with the following results:—

Fresh Cow's Milk.—Two samples of milk were collected in sterile bottles July 16th, at noon, at the Central Station from churns having brought milk from farms A and B in West Sussex. At 4 p.m. (that is 24 hours after milking) these specimens were examined as follows:— Dilutions of each milk were made with sterile water, $\frac{1}{1000000}$ c.c. of the milk then plated on gelatine and incubated at 20° C. After 48 hours milk A showed 65,300,000 organisms per c.c.; while milk B showed 200,000,000 organisms per c.c. The New York standard is that no milk should be sold containing, when 24 to 36 hours old, over 50,000 to 100,000 bacteria.

Condensed Milks. Twelve varieties of condensed milk were bought from a Brighton grocer on a given date. Each tin was opened under sterile conditions, and 10 c.c. drawn from its centre by means of a water-exhaustion pump. Dilutions were made as above with sterile water by drawing this milk into a sterile bottle containing 90 c.c. of sterile water. From this dilution gelatine agar tubes were inoculated with ·1, ·2, and ·3 c.c. on gelatine, and ·2 and ·5 c.c. on agar. The incubation on gelatine was at 20° C and on agar at 37° C. Colonies were counted daily, and the count after four days accepted as final.

The results obtained are shewn in the following table:—

EXAMINATION OF CONDENSED MILKS.

A.—Number of Bacteria.

NAME OF MILK.	Date of Examina-	(1) Examination begun as soon as tin opened.		(2) Examination begun some days after tin had been left opened and exposed to air of laboratory.			Sweetened (S) or Unsweetned (U.) Milk.	Extracts from Remarks and Directions on the tin for use of the Milk.
		No. of bacteria found in 1 c.c. of the original milk at end of four days after incubation on		No. of days expo-sure.	No. of bacteria found in 1 c.c. of the original milk at end of four days after incubation on			
		Gela-tine at 20° c. (1)	Agar at 37° c. (2)		Gela-tine at 20° c. (3)	Agar at 37° c. (4)		
Nestle's ...	11-10-1905	230	120	7 days	360	720	S	Directions— 1 to 9 of water for infants 4 months old.
Hit Brand	30-9-1905	280	484	3 days	183	1130	S	Machine skimmed. Directions— 1 part to 5 of water.
Uncle Tom	1-1-1906	490	150	5 days	740	4000	—	Machine skimmed.
Milkmaid ...	3-11-1905	1300	600	7 days	1000	1200	—	Directions— Not less than 1 to 7 of water.
Posy Brand	9-12-1905	1360	21250	6 days	2700	not estimated.		——
Gallia Brand	1-11-1905	2560	2000	8 days	3250	1600		Label states "absolutely free from bacteria." Directions— 1 part to 4 or 5 of water.
Horse Shoe Brand ...	14-11-1905	2570	3000	6 days	5630	6560	S	Machine skimmed. Directions— 1 part to 5 of water for cooking.
Ideal Brand	4-10-1905	5450	4010	4 days	12800	5850	U	Label states it is *sterilised.* Directions— 1 part to 2 of water.
Cup Brand	8-12-1905	5980	3300	6 days	15200	not estimated.	—	Machine skimmed.
Crown Brand ...	16-12-1905	8800	11800	6 days	40000	not estimated.	—	——
*Head Brand ...	1-12-1905	21800	44200	4 days	in 3 days 114740	in 3 days 128000		——
Tip Top Brand	16-10-1905	70940	7600	11 days	16500	not estimated.	—	Directions 1 to 7 to 14 of water.

*This milk was much less viscid than the others on the list.

B. *Kinds of Bacteria.*

(a) Examination for presence of bacteria of "intestinal type" (coliform organisms). 5 c.c. of a 1 in 10 dilution of each condensed milk was grown in McConkey broth at 42° C. None produced gas and acid. Most of them produced acid, and the most suspicious of these were examined for the above bacilli, but none found in this small amount of milk.

Further experiments were made as to coliform organisms in a tin of Nestle's milk. First the absence of such organisms from 19 c.c. of the milk was proved, the milk being at once incubated in McConkey broth after opening under sterile conditions and dilution. Secondly, 6 c.c. of the same milk diluted to 60 c.c. was incubated for 48 hours at 37° C and then examined for coliform organisms without finding any. It follows that there were no bacilli coli in 25 c.c. of the above tin of milk, although in 6 c.c. of the milk the multiplication of these organisms had been favoured by preliminary incubation as above.

(b) Examination for Bac. Enteritidis sporogenes.—Three specimens of 5 c.c. of a 1 in 10 dilution of each of eleven condensed milks were cultivated anaerobically. The characteristic reaction in sterilised milk from the above bacterium was obtained typically in three of these milks, and less characteristically in six others. In two no reaction occurred. On examining the above nine milk-tubes motile gram-staining bacteria morphologically like the above bacterium were found in six. Further pathogenic tests could not be made.

(c) On peptone solution and after incubation at 20° C and 37° C nearly all of the condensed milks showed numerous cocci and sporing bacteria.

C. *As to Influence of Season.*

A tin of condensed milk was opened and its contents examined immediately under the conditions recorded in col. (1) in the table on page 45. The open tin of milk was then placed in the incubator at 37° C, and the milk examined for number of bacteria, after having been subjected to a temperature much above summer heat for one, two, three, and four days. The results were as as follows:—

Bacterial Contents of Milk per c.c.

On opening the tin	1150
After one day's incubation	1370
,, two days' ,, ...	1160
,, three ,, ,, ...	1960
,, four ,, ,, ...	8960

D. Capability of Multiplication of added Bac. Coli in undiluted Condensed Milk at ordinary temperatures.

If the infection producing summer diarrhœa occurs domestically it is important to know whether condensed milk after being opened and before its dilution is a good medium for the multiplication of Bac. coli* which may have been introduced by flies or as dust. To test this point, the lowest spot at the bottom of a sterile test tube was inoculated with three loopsful of a broth culture of Bac. coli C and then 25 c.c. of the condensed milk from the same tin as was used in the above experiment (and which was shewn to have no Bac. coli in 25 c.c.) were drawn into this test tube by means of a water exhaustion pump. The experiment was so done that the Bac. coli in the test tube were necessarily imprisoned 2¾ in. below the surface of the added condensed milk. Aerial contamination of the tube was prevented, and its contents were incubated for 48 hours at 20° C. At the end of this time 1 c.c. was carefully drawn from the surface of the milk in the tube, diluted to 10 c.c. and inoculated on McConkey broth. A marked re-action occurred and Bac. coli were demonstrated. It follows that Bac. coli can readily multiply in condensed milk at ordinary temperatures; and the fact that in 5 c.c. of each of the milks enumerated in the preceding table no Bac. coli could be detected is strong evidence that they were sterile so far as this organism is concerned.

Summary of Results.—The two specimens of fresh cow's milk subjected in July to examination about 24 hours after milking, showed 65 millions and 200 millions of organisms per c.c., at the end of 48 hours incubation at 20° C. on gelatine. The worst of the twelve samples of condensed milk examined, at the end of four days incubation, after dilution under sterile conditions as soon as the tin was opened, showed at 20° C. on gelatine, 71,000 organisms per c.c. of condensed milk, which according to the directions on that particular can, should be diluted 1 to 7 before use. The condensed milk showing the least growth had only 230 per c.c., and the condensed milk showing the greatest growth of organisms on gelatine had only 71,000 at the end of four days.

So much for results representing the possibilities of growth of bacteria, which were present in the condensed milk before opening the tin. Columns (3) and (4) of the preceding table represent another set of facts. It may be assumed that under domestic conditions condensed milk receives considerable contamination after the tin is opened, and before its contents are consumed. The twelve tins of condensed milk were, therefore, left exposed to the air in the laboratory for the number of days indicated in each instance in the table; and at the end of this interval the bacterial contents of each milk was tested as before. The results show that at the end of four days' incubation at 20° C. the number of bacteria with the exception of one brand (which was much less viscid than the others), was relatively small as compared with the number in fresh cow's milk, and the increase beyond the original count was also relatively small. On agar a similar result is seen.

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*It is assumed throughout that some form of Bac. coli may have causative relationship with diarrhœa, though this is unproved. This is the most common organism found when milk is contaminated by manure, &c.

It is evident therefore that condensed milk is a much less favourable medium for the multiplication of the bacteria contained in it than fresh cow's milk.

The limited examination as to kinds of bacteria made above does not show coliform bacteria in the small quantities of condensed milk, but shows spore bearing bacteria. The former are regarded by Délépine and the latter by Klein, as probably causing diarrhœa.

The experiment described on page 46 shows that in conditions which favour the multiplication of bacteria more than the ordinary conditions of a household, in which three days may elapse before the tin is emptied, the increase of bacteria is small when compared with the number found in fresh cow's milk. As the general facts and considerations given on page 29 of the present report, and in my Annual Reports from 1899 onwards, make it clear that domestic infection is the dominating cause of epidemic diarrhoea, and that condensed milk is more dangerous in this respect than cow's milk, we must look to the kind of contamination of milk, as affording the clue to the explanation of the discrepancy between bacteriological and clinical indications. Condensed milk is more attractive, both for dust and for flies, than fresh cow's milk.

PUBLIC ANALYST'S REPORT.

By MEREDITH WYNTER BLYTH B.Sc., F.I.C.

Report on samples analysed under the Sale of Foods and Drugs Act, during the year 1905 :—

Samples of	Number of Samples.	Adulterated.	Percentage of Adulteration.	Nature of Adulteration.
Milk	297	41	13·80	Abstraction of fat. Addition of preservatives or coal tar colours.
Butter	111	4	3·60	Addition of margarine Excess of water and preservatives.
Milk - blended Butter ...	5	5	100·00	
Margarine ...	7	0	—	
Cheese	9	0	—	
Lard	6	0	—	
Condensed Milk & Infants' Food	7	0	—	
Spirits	6	1	—	Excess of water.
Condiments and Spices... ...	22	0	—	
Sugar & Syrup	4	0	—	
Sausages and Potted Meats	9	6	66·66	Addition of preservatives.
Green Peas ...	2	2	100·00	Addition of copper salts.
Drugs	10	1	10·00	Camphorated oil, deficient in camphor.
Miscellaneous ...	8	0	—	
1905—Total ...	503	60	11·92	
1904— „ ...	501	47	9·38	
1903— „ ...	507	92	18·14	
1902— „ ...	502	114	22·70	
1901— „ ...	490	93	18·97	

Table showing total samples of milk collected, and proportion of watered and skimmed from 1900 to 1905 :—

		Total Samples.	Below Standard.	Per cent. below Standard.	Average per cent. of Fat.
Weekday Samples	Wholesale, 1900-1904	486	19	3·90	3·72
	„ 1905 ...	72	7	9·72	3·35
	Retail, 1900-1904 ..	687	84	12·22	3·52
	„ 1905	189	26	13·75	3·56
Sunday Samples	Wholesale, 1900-1904	24	—	—	4·02
	„ 1905 ...	12	—	—	3·45
	Retail, 1900-1904 ...	230	27	11·73	3·52
	„ 1905	24	1	4·16	3·56

Table showing all forms of adulteration, *i.e.*, water, deficiency of fat, colouring matter (except annatto) and preservatives in milk samples during 1904 and 1905 :—

		1905.			1904.
		Total Samples.	Adulterated.	Per cent. Adulterated.	Per cent. Adulterated (Total Samples 291).
Weekday Samples	Wholesale	72	7	9·72	2·56
	Retail	189	31	16·40	11·11
Sunday Samples	Wholesale	12	—	—	—
	Retail	24	3	12·50	22·22
	Total	297	41	13·34	11·34

Milk.—In my report for 1904, I was able to write that all forms of milk adulteration had diminished to a very marked degree, it is therefore all the more disappointing to report that during 1905 a greater number of samples fell below the recognized standards than in 1904. On the other hand the use of preservatives and coal tar dyes has been rare and the quantity of preservatives found small. The use of Annatto by retailers continues quite unabated, at least 80 per cent. of the samples from retail sources containing this dye.

The increase in the number of samples below the fat standard in 1905 as compared with 1904 is a fact worthy of careful attention. This deterioration in quality is especially noticeable in the wholesale or farmers' samples. The deficiency in fat in nearly every case was so small that in most cases no proceedings were taken, or when proceedings were taken they were unsuccessful.

This is a most unsatisfactory state of affairs, and one which will not be improved until the present state of the law is altered—indeed, unless some alteration be made, the natural result must be for all the milk as sold to the public to be "broken down" to the standard, or just below the standard.

The Board of Agriculture, in 1901, issued a regulation, stating that "where a sample of milk contains less than 3 per cent. of milk fat, it shall be presumed . . ., until *the contrary be proved* that the milk is not genuine . . .

It has been established that all a vendor of milk has to do to *prove the contrary*, is to show that the milk has been sold just as it came from the cow, no matter what be the composition of such milk. This regulation, and the legal interpretation of it, is a direct inducement to farmers to mismanage farms—poorly bred cows, badly fed or even diseased cows may give a substance deficient in fat which may be sold as milk, and the vendor cannot be touched under this regulation. If the farmer can supply the retailer with milk below standard, what chance can there be of a successful prosecution being instituted against a retailer?

The Board of Agriculture, apparently not satisfied with the harm done by fixing an inconclusive standard, and one lower than that recommended by the Departmental Committee (1901), on whose report the standard was presumably based, issued a circular letter on March 27th, 1905, to local authorities, practically inviting them to act as a preliminary court to inquire into, and find excuses for, any deficiency in the quality of any sample of milk. The objections to such a course, and its unfairness to the consuming public, are so many and so obvious, and have been dealt with so ably by others,* that I will make no more comment upon it than to say that it has not tended to encourage farmers to improve the quality of their milk.

What is wanted, and what would, I am sure, be welcomed by all honest milk producers and vendors, and they are the vast majority, is a hard and fast standard from which there should be no departure, and no excuse for failure to maintain. Such a standard, in my opinion, should be higher for the winter months than the standard (so called) at present in force; for those summer months when milk is naturally a little lower in fat, the standard might be kept at about 3 per cent. Until such a standard is fixed, I am convinced that the quality of milk will tend to deteriorate, and the honest milk producer and the consumer will suffer.

The need of a fixed standard is all the more necessary as arguments based on chemical and technical methods and even simple calculations are apt to confuse the mind of some magistrates. I say this with the less hesitation, as in two instances which lately came within my personal experience, the Bench was unable to appreciate the fact that 0·78 and 0·75 are less than 0·8.

Butter.—111 samples of butter were examined, of which four were found to be adulterated with margarine. One sample containing 15·8 per cent. of water had the microscopical and physical appearances of a "milk blended" butter.

The five samples of "milk blended butter" examined contained amounts of water varying from 26 to 30 per cent., and in every case contained an excess of borax. It is a great pity that the ingenuity of lawyers has prevented the possibility of prosecuting the manufacturers of these mixtures with any chance of success. Butter is the substance which of all others has received during the past few years the greatest attention from the scientific adulterator and small quantities of water, milk, water and albumin, as well as cocoa nut oil and palm nut oils, have been and are being worked into butters with considerable success. This success is due in part to the ease with which such mixtures may be protected by a label which as a rule completely misleads the purchaser as to the nature of the substance he is buying, and in part to the great difficulties which the complete analysis of butter fat presents to the analyst. Butter fat has a chemical composition which varies within somewhat wide limits, and cocoa-nut oil, when suitably prepared, presents many of the chemical characteristics of butter fat, so that the old methods of analysis have become unsatisfactory, and new methods have had to be devised. Fortunately the last year has given us one or two improved methods for the detection of these foreign oils, which it is hoped may in future tend to check this form of adulteration. The scientific adulteration of butter, as well as other foods, has increased very greatly both the work and the responsibility thrown upon Public Analysts.

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*Report to the Sanitary Committee of Newcastle-upon-Tyne on the Circular of the Board of Agriculture, 1905.

The President of the Board of Agriculture lately received a deputation from the Federation of Grocers' Associations of the United Kingdom on this subject of butter adulteration, and in answer to this deputation said he proposed as soon as possible to appoint a Select Committee to go fairly into the matter, and he hoped at no distant date that the Government would be able to bring a Bill in the House of Commons.

Spirits.—The only other samples which this year call for any criticism, are the samples of spirits analysed during the year. At the time of writing, it is being sought to establish by the Islington Borough Council that the term "whisky" should only apply to the spirit distilled in a pot still derived from malted barley, mixed or not with unmalted barley and wheat, or either of them. The analyst further lays down a standard of not less than "380 parts of impurities" (secondary products) per 100,000 fluid parts of absolute alcohol. Without discussing the merits of the case, which is still *sub judice*, it may be interesting to compare the samples taken at Brighton with the suggested standard of 380.

SAMPLES OF	Absolute Alcohol by value per cent.	Volatile Acids as Acetic Acid.	Ethers as Ethyl Acetate.	Aldehydes.	Furfural	Higher Alcohols.	Total.
Scotch Whisky A ...	44·86	5·5	31·5	16·0	4·0	156	213
Scotch Whisky B ...	44·86	5·5	35·5	20·0	4·0	156	221
Irish Whisky A ...	41·90	21·0	100·0	16·0	6·0	220	363
Irish Whisky B ...	42·45	4·0	42·5	Trace.	Trace.	Trace.	121·5

It may be seen that not one of these samples reaches the 380 standard, although Irish whisky A approaches it very nearly. Irish whisky B consisted probably of nothing except patent still spirit. While Scotch whiskies A and B, which are very similar in composition, probably contains large quantities of patent still spirit.

Only two samples of brandy were examined during the year, one of these gave an "ether value" of 105 (proposed standard 80), the other an "ether value" of 60, but was rich in higher alcohols. Both these were as far as could be judged from chemical analysis derived entirely from the grape.

M. Wynter Blyth.

THE BOROUGH ISOLATION HOSPITALS.

	Number of Patients suffering from the following Diseases :—									Fulking Grange.
	Scarlet Fever.	Enteric Fever.	Measles.	Diphtheria.	Erysipelas.	Chicken Pox.	Phthisis.	Other Diseases.	Total in Sanatorium	Small Pox.
Remaining in the Sanatorium, Dec 31st, 1904	24	1		46	—	4	10	—	85	—
Remaining in Fulking Grange, Dec. 31st, 1904	—	—	—	—	—	—	—	—	—	—
Admitted to Sanatorium during 1905	164	21	3	181	6	2	140	1	518	—
Total number treated 1905	188	22	3	227	6	6	150	1	603	—
Number discharged during 1905 ...	175	21	—	219	5	6	134	—	560	—
Number who have died in Sanatorium in 1905	1	1	—	3	1	—	3	1	10	—
Remaining under treatment on Dec. 31st, 1905	12	—	3	5	—	—	13	—	33	—

Of the above patients one scarlet fever and three diphtheria belonged to the Sanatorium staff.

The children of inhabitants of the Borough are not charged, but £171 15s. 2d. was charged for the maintenance of other patients in the Sanatorium, £29 6s. 7d. for Poor Law cases, and £9 3s. 4d. for disinfection.

The following table prepared by the Borough Accountant shows the expenditure for the year on the two hospitals. The total number of weeks spent by all the patients in the Sanatorium was 2,847, as compared with 3,167 in the Sanatorium and 3 in Fulking Grange in 1904. Of the total in 1905, Scarlet Fever patients spent 1,025 weeks, Diphtheria patients 1,069 weeks, and Phthisis patients, 610 weeks.

COUNTY BOROUGH OF BRIGHTON HOSPITALS.

EXPENDITURE—SANATORIUM—BEAR ROAD.

				£	s.	d.	£	s.	d.
Salaries and Wages—									
A. Newsholme, Medical Officer	£150	0	0						
Matron	90	0	6						
Nurses and Servants	1031	13	1						
Labour (Gardens)	208	14	9						
Ditto (forming roadways) ...	196	15	0						
				1677	3	4			
Repairs				374	11	3			
Erecting Consumptive Shelter				164	6	4			
Laying water main (proportion)...				64	4	11			
Fuel				697	19	5			
Electricity, £165 13s. 6d.; gas, £53 17s. 8d. ...				219	11	2			
Water				56	18	4			
Hose and fittings, £19 17s. 7d.; fire extinguishers, £25 4s.				45	1	7			
Sundry household goods, furniture and repairs...				314	16	11			
Provisions				1435	10	5			
Drugs and medical sundries				152	17	5			
Surgeon's fees				2	2	0			
Uniforms for matron, dresses for nurses and servants, hospital garments, linen, flannel and drapery goods				140	5	9			
Printing, advertising, stationery and stamps ...				38	2	5			
Rates, taxes and insurance				445	5	0			
Travelling expenses, cab hire, carriage, telegrams and sundries				12	17	2			
Garden seeds, tools, manure, &c.				48	16	3			
Telephone rent				8	17	0			
							5899	6	8

THE GRANGE, FULKING.

Wages (caretaker)	£72	16	0						
Repairs and alterations	136	14	5						
Fuel	6	3	9						
Sundry household goods	11	5	1						
Travelling and miscellaneous expenses	1	0	10						
Rates and taxes	10	12	0						
Telephone rent	35	0	0						
				273	12	1			
							273	12	1
							£6172	18	9
Corresponding amount, 1904							£5683	18	10

SANITARY WORK OF THE YEAR.

SANITARY INSPECTION.

In the following Tables, prepared by Mr. Skinner, the Chief Sanitary Inspector, the work of the Sanitary Department is stated, so far as it can be given in tabular form :—

Inspections during 1905.

	Totals for 1905.	Totals for 1904.
Number of Streets Inspected	275	190
,, Houses and other Premises Inspected...	15591	14058
No. of Complaints attended to...	794	997
,, Visits to Slaughter Houses	2355	2793
,, ,, Cowsheds	43	38
,, ,, Bakehouses	420	466
,, ,, Dairies and Milk Shops ...	461	337
,, ,, Provision Shops	2963	1409
,, ,, Restaurants	144	122
Number of Day Visits to Common Lodging-Houses	156	161
Number of Night Visits to ditto	88	136
,, Visits in respect of Sickness ...	6400	7484
,, Visits to Disinfect Rooms ...	736	829
,, Visits for Removal of Bedding ..	597	636
,, Drains Tested by Volatile Test .	56	72
,, Drains Opened for Examination	325	379
,, Visits for Sundry Purposes ...	4882	8106
,, Visits to look up Notices Served	7055	9188
,, Attendances at Police Court ...	32	29
,, Samples Collected for Analysis...	502	501
,, Inspections of Stables	1753	1471
,, Wastes of Water Reported ...	59	48
,, Letters sent to Schools and Public Library	1382	1738
Meteorological Observations Taken	678	532
Visits to Schools	117	152
Number of Visits under Factory and Workshops and Shop Hours Acts	3557	3225
Drains Flushed	34	37
Circulars Delivered *re* Diarrhœa	10000	10000
Markets Committee, One Inspector	12 days.	10 days.
Visits to Houses Let in Lodgings (Day) ...	285	445
,, ,, ,, ,, (Night) ..	96	24
,, Offensive Trades	114	90
Smoke Observations	53	26
Contagious Diseases (Animals) Act . ..	36	94
Visits to Ice Cream Vendors	154	65
Special Duty at West Sussex *re* Milk, Outbreak of Infection, One Inspector	13 days.	—

The sanitary inspections enumerated in the above Table have been followed by the serving of the notices given in the following Table. A very large proportion of the work is done on the strength of verbal recommendations or preliminary "warning" notices.

Notices served during 1905.

Nature of Notice.	Warning and Verbal Notices.						Final Notices.				Total number of notices complied with.	
	Number served.		Number complied with before service of final notice.		Number reported for final notice.		Number served.		Number complied with.			
	Owners.	Occupiers.	Owners.	Occupiers.	Owners.	Occupiers.	Owners.	Occupiers.	Owners.	Occupiers.	Owners.	Occupiers.
To drain into sewer and fill up cesspools	3	—	1	—	2		2	—	2	—	3	—
To relay drain and fill up cesspools	1	—	1	—	—	—		—	—	—	1	—
To relay drain	173	—	101	—	72	—	72	—	72	—	173	—
To repair drain or soil pipe	106	—	71	—	35	—	30	—	30	—	101	—
To trap drain	58	2	30	2	28	—	31	—	30	—	60	2
To cleanse and whitewash rooms	453	69	206	36	247	33	260	11	257	11	463	47
To clear drain or soil pipe ...	88	20	16	6	72	14	83	6	82	6	98	12
To clear, repair or cleanse closet. or repair flushing apparatus or pan	481	164	203	58	278	106	296	106	295	106	498	164
To repave yard or scullery	306	12	149	11	157	1	181	1	176	1	325	12
To abate other nuisances ...	916	65	472	50	444	15	515	14	499	14	971	64
To provide covered dust bins	738	8	281	5	457	3	443	1	429	1	710	6
To provide premises with a proper water supply ..	2	—	—	—	2	—	2	—	2	—	2	—
To cleanse premises and remove foul accumulations	61	493	16	231	45	262	21	290	21	290	37	521
To provide manure receptacles	14	—	5	—	9	—	9	—	9	—	14	—
To fill up underground manure pits	8	—	4	—	4	—	4	—	4	—	8	—
To provide w.c. accommodation	12	—	7	—	5	—	5	—	5	—	12	—
To cause waste pipes to discharge into outer air ...	25	7	17	7	8	—	23	—	21	—	38	7
To render damp walls with cement compo	57	3	19	—	38	3	57	—	54	—	73	—
To lay on water to closets...	5	—	5	—	—	—	1	—	—	—	5	—
To abate overcrowding ...	—	127	—	31	—	96	—	86	—	86	—	117
To discontinue to let or occupy cellar dwellings ...	—	5	—	5	—	—	—	—	—	—	—	5
To discontinue keeping animals so as to be a nuisance	—	145	—	35	—	110	—	114	—	114	—	149
To abate smoke nuisance ...	—	13	—	13	—	—	—	—	—	—	—	13
To cleanse and whitewash bakehouse	3	62	3	62	—	—	—	—	—	—	3	62
To cleanse and whitewash workrooms	—	26	—	21	—	5	—	1	—	1	—	22
Totals	3510	1221	1607	573	1903	648	2035	63	1988	630	3787	1203

Only one summons was necessary to enforce compliance with notices during the year. This was in respect of a smoke nuisance. An order was made on the defendant to prevent the recurrence of the nuisance and to pay the costs of the proceedings.

COMMON LODGING HOUSES.

Ten are at present registered, having accommodation for 298 lodgers.

The Bye-laws have been properly carried out in these houses during the year.

HOUSES LET IN LODGINGS.

Bye-laws for houses of a rateable value not exceeding £26, and having four families in them if the landlord lives in the house, were confirmed by the Local Government Board, on July 13th, 1898. Eighty-five such houses are now on the register, as compared with 82 at the end of 1904.

There has been no breach of the Bye-laws respecting these houses during 1905.

ENQUIRIES RESPECTING VAGRANTS.

An application having been made by the Home Office for a statement of the number of vagrants in Brighton, a midnight inspection was made of houses likely to contain any such persons, and the number of occupants of these houses is given in the following table. The majority of these were not vagrants. The number appearing to come within the definition of vagrants were 71 men, 16 women, 1 child over 10, and 5 under 10.

Enquiries respecting Vagrants in Brighton on the night of July 28th, 1905.

Resident in Brighton over 1 month.				Resident in Brighton less than 1 month.			
		Children				Children	
Males.	Females	over 10	under 10	Males.	Females.	over 10	under 10
COMMON LODGING HOUSES.							
181	4	—	4	69	3	—	—
CHURCH ARMY LABOUR HOME.							
11	—	—	—	—	—	—	—
BEER HOUSES.							
32	—	—	—	5	—	—	—
ONION HAWKERS.							
—	—	—	—	17	—	—	—
HOUSES LET IN LODGINGS.							
193	109	21	78	32	15	—	2

REMOVAL OF HOUSE REFUSE.

In accordance with the arrangement made with the Borough Surveyor's Department, the following information has been supplied, and the necessary notices served in each instance.

Refused to have refuse removed	None
No answer to dustmen calling	None
No bins, defective bins, &c.	170
Other sanitary defects	None

OTHER PROCEEDINGS.

The following summonses, in addition to those already mentioned, were issued during the year.

Depositing sewage in the public street. Two defendants were fined 5s. and costs each, or 7 days.

Exposing patient when suffering from scarlet fever. Fined 40s. and costs, or one month.

Failing to vacate a condemned house. Defendant removed and smmons withdrawn on payment of costs.

HOUSING OF THE WORKING CLASSES ACT, PART II.

Official representations have been made by me, under Part II. of the above Act during 1905, that the following premises are in a state so dangerous to health, as to be unfit for human habitation :—

Situation of Premises.	No. of houses.	Legal proceedings taken.	Result.
Claremont Row ...	4	One	Closing order made and house now undergoing repair: the other three houses put into thorough repair without legal proceedings.
Wood Street	1	None	House put into thorough repair.
Carlton Row	1	None	Ditto, ditto.
Crescent Cottages ...	1	One	Closing order made.
Holland Street ..	2	Two	Summons adjourned. Houses put into thorough repair and summons withdrawn on payment of costs.
Mount Pleasant ...	1	None	House undergoing repairs.
Park Place	1	None	Ditto, ditto.
Sweet Patch	2	Two	One dismissed by magistrates on defendant undertaking to discontinue using part of the house. One adjourned by magistrates to allow alterations to be made to the house.

FACTORY AND WORKSHOP ACTS, SHOP HOURS ACTS, EMPLOYMENT OF CHILDREN ACT, etc.

The total number of visits made by Inspector Mills for the purpose of carrying out the provisions of the above Acts was 3,577. Of these 2,346 were for the purpose of inspection, and 1,231 the looking up of works and serving of notices, &c.

The following tables show the number of premises coming under the provisions of the above Acts at the end of 1905, the number registered on the new card register, the number of each kind of premises inspected, a detailed statement of defects found, and other particulars in accordance with the form laid down by H.M. Inspector of Factories :—

	No. of each kind of Working Place in Brighton.	The number of these transferred to the New Card Register.	Number Inspected 1905.
Factories	216	216	39
Workshops	2100	1663	517
Workplaces	150	—	23
Shops	3997	1458	1322
Premises where children are employed (Emment of Children's Act)...	574	—	445
	7037	3337	2346

The above total 7,037 represents probably about 6,200 separate premises.

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES AND HOMEWORK.

1.—*Inspection.*

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories ... ... (Including Factory Laundries.)	39	5	—
Workshops... ... ... (Including Workshop Laundries).	475	108	—
Workplaces	23	2	—
Homeworkers' Premises	42	2	—
Total	579	117	—

2.—*Defects found.*

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied	Referred to H.M. Inspector	
Nuisances under the Public Health Acts:—				
Want of cleanliness	61	56	—	—
Want of ventilation	18	16	—	—
Overcrowding	6	6	—	—
Want of drainage of floors	2	2	—	—
Other nuisances...	41	38	—	—
*Sanitary accommodations insufficient ...	5	5	—	—
unsuitable or defective	20	19	—	—
not separate for sexes	6	5	—	—
Offences under the Factory and Workshop Act:—				
Illegal occupation of underground bakehouse (S. 101)	5	2	—	—
Breach of special sanitary requirements for bakehouses (SS. 97 to 100)	104	98	—	—
Failure as regard lists of outworkers (S. 107). Number of Firms ...	64	64	—	—
Giving out work to be done in premises which are unwholesome (S. 108) ...	—	—	—	—
infected (S. 110) ...	—	—	—	—
Allowing wearing apparel to be made in premises infected by scarlet fever or smallpox (S. 109)...	—	—	—	—
Other offences	—	—	—	—
Total	332	311	—	—

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* Section 22 of the Public Health Acts Amendment Act, 1890, is in force in Brighton.

The amount of sanitary accommodation required is in accordance with the Home Office Order of February 4th, 1903.

3.—*Other matters.*

Class.	Number.
Matters notified to H.M. Inspectors of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (S. 133)	14
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5) ... ... — notified by H.M. Inspector	8
— Reports (of action taken) sent to H.M. Inspectors	8
Other	—
Underground Bakehouses (S. 101) :—	
Certificates granted during the year	3
In use at the end of the year	114

	Number of	
Homework :—	Lists.	Out-workers
List of Outworkers (S. 107):—		
Lists received	85	779
Addresses of outworkers — forwarded to other Authorities	2	16
Addresses of outworkers — received from other Authorities	6	72

Homework in unwholesome or infected premises :—	Wearing Apparel.	Other.
Notices prohibiting homework in unwholesome premises (S. 108)	—	—
Cases of infectious disease notified in homeworkers' premises	7	—
Orders prohibiting homework in infected premises (S. 110)	2	—

Workshops on the Register (S. 131) at the end of the year :—		
Making of Wearing Apparel	802	
Bakehouses	188	
Laundries	148	
Furnishing Trades	134	
Building Trades	116	
Other Trades	275	
Total number of workshops on Register		1663

The only special work in connection with workshops in 1905 has been the alterations and improvements of some of the worst of the above-ground bakehouses, and the inspection of all hairdressers' workshops, and subsequent improvements of those in an insanitary condition.

Experience has shown that a more frequent inspection is necessary of factories and workshops than of shops, but during the past year this course has not been practicable, owing to the time taken up in the special inspections of shops.

SEATS FOR SHOP ASSISTANTS ACT, 1899.

Seven shops were inspected, in which more than three females were employed, six were found to have provided seats, one was without seats for the assistants, and these were subsequently provided.

SHOP HOURS ACT, 1892-5 AND 1904.

The number of visits and inspections under the above Acts was 1,332. In 212 of the shops where persons under 18 years of age are employed, the required abstract of the Act was not shewn, and abstracts of the Acts were served on the occupiers.

No complaints have been received during the year of overwork, but three cases were found during the course of inspection. The employers appearing to have acted in ignorance of the Act were cautioned.

Re APPLICATION FOR CLOSING ORDER BY GROCERS, TEA DEALERS, PROVISION MERCHANTS, OIL, COLOR AND ITALIAN WAREHOUSEMEN UNDER THE SHOP HOURS ACT, 1904.

This application was for an order curtailing the evening hours of work, and enforcing a special half holiday. The application necessitated a special investigation by Mr. Mills.

A total of 820 shops were visited and inspected, a special Register was prepared as required by the Act, and 640 names and addresses were entered of shops, the occupiers of which traded entirely or to some extent in the articles usually sold in shops trading as those described in the application for the closing order.

Voting papers were prepared by the Town Clerk and sent by post; 473 valid papers were returned, of these 198 were in favour of the closing order and 275 against.

As the number of votes against the order amounted to more than one-third of the number of shops affected, the application failed.

Without going into the reasons for and against the order, the following facts may be quoted from the Inspector's detailed report.

In 233 of the shops where assistants were employed (other than members of the employers' family), 809 assistants, including errand boys, were employed, and when the very late and irregular hours during which these shops are now open are borne in mind, there can be no doubt that a half-holiday would have been a great boon to these employés and beneficial to their health. If the half-holiday only had been asked for, and shops where no assistants other than the occupier and his wife were employed had been exempted, there would, in the opinion of the Inspector, have been no doubt as to the success of such an application.

EMPLOYMENT OF CHILDREN'S ACT, &c.

In accordance with instructions received from the Town Clerk, copies of the new Bye-laws were served on all hairdressers and domestic laundries, and also (from a list supplied by the officers of the Education Committee) on the employers of children attending school.

685 copies of the Bye-laws were served personally.
395 on shops already coming under the Shop Hours Act.
81 on workshops coming under the Factory and Workshop Act.
98 on private persons.
70 on barbers shops.
41 on domestic laundries.

Several cases of infringement of Bye-law 5 have been found. These seemed to have occurred through the misrepresentation of the word "parcel," and the employers were cautioned.

PREVENTION OF CRUELTY TO CHILDREN ACT.

The duties under this Act (formerly carried out by H.M. Inspector of Factories) are to see that all the restrictions and conditions endorsed upon the licenses for children to perform in places of public entertainment are properly complied with.

25 Licenses have been granted this year, a decrease of 11 from last year.

40 Children were employed, a decrease of 30 from last year.

7 were employed as Acrobats.
16 ,, ,, ,, Actors and Actresses.
8 ,, ,, ,, Musicians.
9 ,, ,, ,, Singers and Dancers.

26 night inspections were made and 4 day visits, the conditions of the licenses were fairly well complied with, the exceptions being a tendency to keep them on the stage beyond their specified time, and to neglect their education. When the managers have been visited

early in the week and cautioned, the conditions have been strictly adhered to for the remainder of the week. One case of employment without license was reported to the Chief Constable.

The diminution in the number of children employed is very satisfactory. It is in part due to the action of Metropolitan Magistrates in refusing in many cases to grant these licenses.

SPECIAL INSPECTION OF HAIRDRESSERS AND BARBERS SALOONS.

Early in the year application was made by a number of local hairdressers for the giving of certificates, stating that their premises were in a sanitary condition. On my recommendation, in view of the greater importance of other work for which we already had an insufficient staff, the detailed and frequent visits involved as a condition of giving such certificates were not undertaken. At the same time a thorough inspection was made by Inspectors Mills and Ward of all such premises in the town.

122 premises were inspected, comprising
119 gentlemens' saloons,
30 ladies' saloons, and
27 workrooms.

Employed in the above are 231 males and 39 females.

As pointed out in a special report on this subject, the main defects discovered in the course of the recent inspection affected in varying degrees (1) customers and (2) workmen. There is much more hope of thoroughly efficient remedies for evils affecting customers than for evils affecting workmen, as business success depends very much on the cleanliness of premises and utensils. The workmen and women on the other hand are exposed to any evil conditions that exist for protracted periods, and their health is more likely to suffer than that of customers. Hence special importance attaches to those measures of improvement calculated to benefit the attendants.

Workshops were in some instances unsatisfactory, and improved means of ventilation were recommended.

The Ventilation of Saloons was often defective. No hard and fast rule could be made as to the provision of means for carrying off the fumes from gas stoves, urns, &c., but – especially in view of the fact that the Brighton coal gas contains a large excess of the dangerous gas carbon-monoxide – it is important that the products of combustion should not escape into the saloons or workrooms. Much headache and ill-health are caused in this way. The visit of these premises again drew attention to the evils of lock-up shops.

Lock-up Shops are unfortunately being more frequently used not only by hairdressers, but also for other businesses. They are most objectionable, unless much more efficient through ventilation is provided than is usually found. It is a question whether special powers are not advisable to prevent the use of lock-up shops (a) in which back ventilation as well as front ventilation cannot be secured, and (b) in which no w.c. and no drainage whatever are provided.

The use of the machine brush is, owing to the dust, undoubtedly a source of risk to the health of the hairdresser, and it is advisable that a respirator should be worn when working the brush.

The dust and fine hairs from the floor of the saloons should be carefully removed at frequent intervals, and not allowed to accumulate in cupboards.

The water supply and the means of its discharge are important in the interest of the customers.

Notices have been served in regard to the premises in which there is no provision for removing waste water, as this almost necessarily implies dirty sponges and other utensils.

The arrangements for *personal cleanliness* are in the hands of the public themselves, and they could without difficulty secure great improvement. It is only fair to say however that there is an increasing attention to the minutiæ of cleanliness in the majority of the hairdressers' shops. As might be expected, the hairdressers making the lowest charges have the most need for improvement in these respects. Thirty out of 61 of such shops are described by the Inspector as having bad arrangements as to cleanliness in one or other particular. In only a few, either in this class of shop or in the class which make higher charges is a newly washed towel supplied for every customer. Often the towel has only been pressed.

Powder puffs, although objectionable, are still often employed.

Soap tablets, although much less cleanly than fresh soap powder for each customer, are still generally used.

The brushes, combs, razors, and scissors are not always scrupulously cleansed. This is more important than the use of a disinfectant, unless the latter is regarded as an additional means of protection, and not as superseding the need for frequent cleansing with soap and water.

It is most desirable that sponges should be superseded by small washable towellettes. Increased attention is also being paid to the desirability of movable covers to the head rests for customers.

Unsound Meat seized or surrendered during 1905.

Description.	Number of Animals.	Number condemned by Magistrate	Number destroyed by arrangement with owners.	Total weight in lbs.
A.—*At the Abattoir*—				
Bullocks (whole carcase) ..	7	—	7	4760
,, (part of carcase)	276	—	276	4953
Calves (whole carcase) ...	2	—	2	272
,, (part of carcase) ..	28	—	28	318
Sheep (whole carcase) ..	15	—	15	1040
,, (part of carcase) ..	201	—	201	1316
Pigs (whole carcase) ...	28	—	28	4266
,, (part of carcase) ..	1599	—	1599	7002
B.—*In the Private Slaughter-Houses and Shops*—				
Bullocks (whole carcase) ...	6	—	6	5965
,, (part of carcase)	455	—	455	5209
Calves (whole carcase) ...	3	—	3	190
,, (part of carcase) ...	14	—	14	111
Sheep (whole carcase) ..	17	—	17	1182
,, (part of carcase) ...	219	—	219	978
Pigs (whole carcase) ...	22	2	20	2006
,, (part of carcase) ...	345	—	345	1168
	3237	2	3235	40736

Of the beasts, 1 bull and 5 cows were found to be tubercular to such an extent that the whole carcase was destroyed; 184 parts of beasts were also found to be tuberculous, 1 calf and 9 parts of calves were tuberculous 14 pigs, and 717 parts of pigs were also found to be tuberculous.

The total amount of meat destroyed in connection with the private, slaughter-houses and shops 16,809 lbs.; at the Abattoir 23.927 lbs.

Other foods seized or surrendered during 1905.

201 Oysters.
7 barrels of Herrings, 13 cwts.
4 Fowls.
4 Hake, 84 lbs.
324 frozen Australian Rabbits—Of the Rabbits 72 and 201 oysters were condemned by Magistrates' order, the remainder were surrendered by owner.
14 cases Bananas.
1 cask Oranges.
25 half sieves Cherries.
30 quarts Strawberries.
4 boxes Apricots.

4 boxes Tomatoes.
21 half sieves Black Currants.
54 baskets Red Currants.
17 bushels Plums.
15½ ,, Pears.
1½ boxes Chocolate.

THE PUBLIC ABATTOIR

Has now been open for eleven complete years. The number of animals slaughtered in each successive year from the first has been 6,991, 11,184, 12,054, 12,650, 16,384, 18,304, 17,645, 20,318, 22,962, 25,804, and 26,978.

The number of animals killed in 1905 was 26,978, viz. :—2,300 beasts, 1,534 calves, 8,596 sheep, 1,037 lambs, and 8,197 pigs in the public slaughter houses, and 81 beasts, 69 calves, 1,335 sheep, 334 lambs, and 3,495 pigs in the private slaughter houses at the Abattoir.

The amount received in tolls since the opening of the Abattoir has been as follows:—November and December, 1894, £7 13s. 4d.; 1895, £102 15s. 4d.; 1896. £122 4s.; 1897, £115 7s. 7d.; 1898, £185 10s. 3d.; 1899, £243 9s. 4d.; 1900, £279 17s.; 1901, £271 13s. 10d.; 1902, £352 14s. 10d.; 1903, £402 11s. 10d.; 1904, £434 4s. 3d.; 1905, £451 9s.

In addition to the above amounts there is also an income of £85 per annum from the rental of private slaughter-houses at the Abattoir.

PRIVATE SLAUGHTER-HOUSES.

In various parts of the town 34 private slaughter-houses are in use. None have been closed during 1905. The Bye-laws for slaughter-houses have, on the whole, been fairly well carried out during the year, no case requiring prosecution having arisen. Each slaughter-house is visited several times a week by Inspector Cuckney, the Superintendent of the Abattoir.

SALE OF FOOD AND DRUGS ACTS.

Number of samples collected	503
,, ,, adulterated	55
,, prosecutions	15
,, convictions	10
,, withdrawn	4
,, dismissed	1

Aggregate amount in fines ...	£36	5	0
Analysts' fees recovered ...	3	10	0
	£39	15	0

Cost of samples	£3	4	0¾
Cost of Analysis	127	8	0
Analyst's salary	50	0	0
Cost of assistance ... Postage and railway fares	6	8	6
	£187	8	6¾
Fines and analyst's fees recovered	39	15	0
Net cost of working the Act ...	£147	13	6¾

Eight milk-sellers were fined amounts varying from £15 to 10s. One provision dealer was fined 10s. for exposing margarine for sale without being labelled, and one provision dealer was fined £5 for selling margarine as butter.

It will be noted that the net cost of administrating the Act was about £147, or nearly 6s. a sample. This does not include any portion of the expense incurred by the Public Health Department in working the Act. In some districts the cost of administering the Act is fully defrayed by the fines inflicted. Small fines, especially in milk-adulteration cases, are recouped by the dishonest tradesmen by a very few days' sale. The risks of early detection of continued adulteration are relatively small.

Sample.	Nature and extent of Adulteration.	Result of Prosecution.
1 Margarine ...	Exposing margarine for sale without being labelled ...	Fined 10s. and costs or 14 days' imprisonment.
1 Milk	Deficient in fat 10 per cent. . .	Fined 5s. and costs or 7 days' imprisonment.
1 Milk	Deficient in fat 6·6 per cent. .	Fined 20s. and costs or 14 days' imprisonment.
1 Butter ...	Adulterated with 100 per cent. of fat other than butter fat	Fined £5 0s 0d. and costs or one months imprisonment.
1 Milk	Deficient in fat 30 per cent. ...	Fined £5 0s. 0d. and costs or one months' imprisonment.
1 Milk	Deficient in fat 13 per cent. ...	Fined 40s. and costs or 14 days' imprisonment.
1 Milk	Deficient in fat 6·6 per cent. ...	Withdrawn on payment of costs.
1 Milk	Deficient in fat 6 6 per cent. ...	Withdrawn on payment of costs.
1 Milk	Deficient in fat 20 per cent. ...	Fined £5 0s. 0d. and costs or one months' imprisonment.
1 Milk	Deficient in fat 6.6 per cent. ...	Withdrawn on payment of costs.
1 Milk	Deficient in fat 20 per cent. ...	Fined 10s. and costs or 14 days' imprisonment.
1 Milk	Deficient in fat 20 per cent. ...	Fined £15 0s. 0d. or one months' imprisonment.
1 Milk	Deficient in fat 26 per cent. ...	Fined 40s and costs or 14 days' imprisonment.
1 Milk	Deficient in fat 6 6 per cent. ...	Withdrawn on payment of costs.
1 Milk	Deficient in fat 6·6 per cent. ...	Dismissed with costs.

In the last case in the above list the defendant exercised his right to have an independent analysis by the officials of Somerset House, and he had in court a certificate of analysis by a private analyst. At the adjourned hearing the private analyst gave evidence to the effect that there was a deficiency of only 3 per cent. of fat (the amount being 2·97). The Somerset House certificate stated that there was a deficiency of 7 per cent. of fat. The actual figures for the fat were 2·78 as against the 2·8 given in the certificate of the Brighton public analyst. These figures (2·78) were twice, during the hearing of the case, cited by a magistrate as indicating that the amount of fat in the milk, as shewn by the Somerset House analysis, was greater than that shewn by the Brighton public analyst (2·8) ! This is an additional reason for the fixed standard urged by Mr. Blyth on page 51.

WORK OF THE SCHOOL NURSE.

The following table gives a summary of the first complete year of Miss Dixon's work as school nurse.

Summary of School Nurse's Work during 1905.

		Boys.	Girls.	Infants.	Total.
Cases of	Infectious Disease	12	10	46	68
	Ringworm	61	71	86	218
	Itch	11	17	11	39
	Verminous Heads	34	486	211	731
	Eczema	49	38	98	185
	Other Conditions	200	452	250	92
	Total Cases	367	1074	702	2143

The action taken in regard to the above children has led to a marked reduction in the period of their exclusion from school. The effect of the work cannot be completely guaged by a tabular statement. The examinations and notices served have a great influence on other parents, and the general standard of cleanliness has improved.

That this is so is indicated by the condition of the children at school-ages (4 to 14) when admitted to the Borough Sanatorium for scarlet fever or diphtheria, for which the records of three years are given below:—

Percentage of the Total Children of School Ages admitted to the Borough Sanatorium who had

Year.	Clean Heads.	Verminous Heads.	Ringworm.	Eczema.	Number of Children on which the percentages are based.
1900 ..	42	32	9	17	429
1904 ...	53	40	5	2	249
1905 ...	75	21	4		204

The ringworm cases are the most difficult of all to manage. They are frequently sent back to school when still contagious, sometimes with medical certificates.

Much greater good might be done if the children seen by the school nurse could be "followed up" at home and more rigidly supervised.

TABLE I.—APPENDIX.

		Number of Deaths during 1905.											
	Births in 1905.	All causes.	Deaths under one year.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Measles	Whooping Cough.	Diarrhœa.	Phthisis.	Other Tubercular Diseases.	Bronchitis and Pneumonia.
Kemp Town	93	64	4	—	—	—	—		—	1	6	2	8
Queen's Park	187	151	28	—	—		—			8	11	7	27
Pier	188	157	32	—	—	—	—		2	2	18	5	27
Pavilion ...	63	40	8	—	—	—	—		1			1	9
Regency ...	105	96	10	—	—	—	—		1	1	8	3	13
West ...	40	68	3	—	—	—	1	—	1	—	2	1	9
Montpelier	71	96	15	—	—	—	—	—	1	3	6	7	13
St. Nicholas	209	117	20	—	—	1	—			5	20	2	12
St. John's ...	341	195	46	—	—	1	—		—	8	22	6	29
Hanover ..	344	157	31	—	—	1	1		1	5	16	4	22
Lewes Road	504	185	39	—	—	1	—	1	2	3	28	8	20
St. Peter's ...	169	96	21	—	1	—	—	1	1	3	14	6	12
Preston Park	259	99	12	—	—	1	—	1	—	—	11	4	10
Preston ..	338	152	28	—	—	—	—	1	1	5	10	13	19
	2911	1673	297	—	1	5	2	4	11	44	172	69	230

Of the 220 deaths in the Workhouse, five were of children who were born in the Workhouse.

The Queen's Park Ward contains the Workhouse. Where the information was obtainable, deaths in this Institution have been distributed to the Wards from which the patients were removed to the Workhouse. There remains 27 deaths (out of the 151 in the Queen's Park Ward) which occurred in the Workhouse, of patients from outside Brighton or whose Brighton home address was unknown. Of these three were due to phthisis and two to other tubercular diseases.

The 40 deaths in the Pavilion Ward include one of a visitor to Brighton in the Lying-in Hospital.

The 96 deaths in the Montpelier Ward do not include the deaths of a number of children occurring in the Children's Hospital, whose home addresses were known, these being stated in the Wards to which they belong. They include 16 deaths in this Institution of patients whose home address was outside Brighton. Of these, two were due to diarrhœa, seven to tubercular diseases, and two to respiratory diseases.

The 117 deaths in the St. Nicholas Ward include two deaths of patients from outside Brighton.

TABLE II.—APPENDIX.

INFANTILE MORTALITY DURING THE YEAR 1905.

Deaths from Stated Causes in Weeks and Months under One Year of Age.

	Cause of Death.	Under 1 week.		1 2 weeks.		2 3 weeks.		3 4 weeks.		Total under 4 weeks.	1 2 months.		2 3 months.		3 4 months.		4 5 months.		5 6 months.		6 7 months.		7 8 months.		8 9 months.		9 10 months.		10 11 months.		11 12 months.		Total Deaths under 1 year.
		M.	F	M.	F	M.	F.	M.	F		M.	F	M.	F.	M.	F	M.	F	M	F	M.	F.	M.	F	M	F.	M.	F	M.	F.	M.	F	
All Causes.	Certified	40	27	10	5	4	8	2	5	101	17	10	19	15	9	9	13	8	12	8	4	8	8	9	9	5	5	9	4	2	6	5	295
	Uncertified	1	1							2																							2
Common Infectious Diseases.	Small Pox																																
	Chicken Pox	—																															
	Measles																					1											1
	Scarlet Fever																																
	Diphtheria : Croup	—																															
	Whooping Cough													1	1					1				1		1							5
Diarrhœal Diseases.	Diarrhœa, all forms, including Gastro intestinal Catarrh										1	3	5		1	2	5	1	2	1			1	2	1		2	1	1		2	2	33
	Enteritis						1			1		2	2			1		1	1	1			1	2		1	2		1	1	1		18
Wasting Diseases.	Premature Birth	23	17	3	3	1	2		2	51	2	1	—	1																			55
	Congenital Defects		2	1					1	4								1				1	1										7
	Injury at Birth																																
	Want of Breast Milk												1	2	1																		4
	Atrophy, Debility, Marasmus	2	2	2		2	1			9	6	1	1	4	1	2	1	1	1	1	2	2		1	1		1	1					36
Tuberculous Diseases.	Tuberculous Meningitis												1						1		1			1		1		1					6
	Tuberculous Peritonitis Tabes Mesenterica													1		1																1	3
	Other Tuberculous Diseases														1			1		1		1	1								1		6
	Erysipelas			1						1	1																						2
	Syphilis		1	1						2	1	2	1	1	1				1									1					10
	Rickets																											2					2
	Meningitis								1	1								1					1		1							1	5
	Convulsions	4		1			1			6			2				1					1											10
	Bronchitis							1		1	2		3	1		3	2	1					1					1		1		1	17
	Laryngitis																																
	Pneumonia				1		2			3	2			2	1		2		2	1		1	1	2	4	2		1			2		26
	Suffocation, overlaying	2	2						1	5	1	1	1	1	1						1												11
	Other Causes	10	4	1	1	1	1	1		19	1		2	1	1		2	1	4	2		1	1		2			1	2				40
		41	28	10	5	4	8	2	5	103	17	10	19	15	9	9	13	8	12	8	4	8	8	9	9	5	5	9	4	2	6	5	297

TABLE III.—APPENDIX. (*Vital Statistics of Brighton during 1904, and previous Years*).

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		DEATHS UNDER ONE YEAR OF AGE.		DEATHS AT ALL AGES. TOTAL.		DEATHS IN PUBLIC INSTITUTIONS.	Deaths of Non-residents registered in public institutions within the Borough.	Deaths of Residents registered in public institutions beyond the Borough.	DEATHS AT ALL AGES NET.	
		Number.	Rate.†	Number.	Rate per 1,000 Births registered.	Number.	Rate.†				Number.	Rate.†
1	2	3	4	5	6	7	8	9	10	11	12	13
1895 ...	119,010	3057	25·7	503	164	—	—	360	—	—	—	—
1896 ...	119,760	3025	25·3	410	124	—	—	369	—	—	—	—
1897 ...	120,510	2985	24·8	428	144	—	—	381	—	—	—	—
1898 ...	121,270	3035	25·0	544	179	—	—	386	—	—	—	—
1899 ..	122,040	3058	25·1	530	173	—	—	447	—	—	—	—
1900 ...	122,860	2920	23·8	484	166	—	—	501	—	—	—	—
1901 ...	123,668	2984	24·1	483	162	2085	16·8	485	68		2025	16·4
1902 ...	124,539	3072	24·3	387	125	2052	16·2	525	92	15	1975	15·7
1903 ...	125,465	3046	24·3	348	114	1833	14·6	458	72	8	1769	14·1
1904 ..	126,286	2963	23·5	395	133	2156	17·1	516	96	7	2060	16·3
Averages for years 1895-1904	122,534	3014	24·6	451	148	—	—	443	—	—	—	—
1905 ...	127,183	2901	22.8	297	102	1739	13·6	162	94	51	1696	13.3

†Rates in Columns 4, 8 and 13 calculated per 1000 of estimated population.

TABLE IV. -APPENDIX. *(Local Government Board Table).*

Cases of Infectious Disease Notified during the Year 1904.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE BOROUGH.												TOTAL CASES NOTIFIED IN EACH WARD														NO. OF CASES REMOVED TO HOSPITAL FROM EACH WARD.													
	At all Ages.	At Ages—Years.											Kemp Town 1	Queen's Park 2	Pier 3.	Pavilion 4.	Regency 5.	West 6.	Montpelier 7.	St. Nicholas 8.	St. John 9.	Hanover 10.	Lewes Road 11.	St. Peter 12.	Preston Park 13.	Preston 14.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Under 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and upwards.																												
Small Pox ...	—	—	—	—	—	—	—	—	—		—	—	—	—	—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria ...	221	3	55	60	38	19	14	21	5	5	1	—	18	14	21	7	9	8	8	25	24	19	26	5	16	21	11	6	15	7	7	4	4	24	17	16	24	3	14	12
Membranous Croup ...	2	—	2	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—
Erysipelas ...	85	4	2	3	3	8	5	10	14	14	12	10	6	8	12	3	1	3	3	7	6	9	10	3	6	8	1	1	1	—	—	—	1	—	—	—	1	—	—	—
Scarlet Fever	206	5	52	86	36	11	5	6	5	—	—	—	13	13	10	12	8	2	10	18	14	22	22	12	24	26	6	11	8	8	8	1	5	17	15	15	19	9	21	23
Typhus Fever	—	—	—	—	—	—	—	—	—	—	—		—	—	—	—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever	34	—	—	6	4	3	4	9	3	4	—	1	2	1	2	3	1	4	1	3	1	6	—	4	4	2	2	1	1	3	1	1	1	3	1	6	—	3	3	1
Relapsing Fever ...	—	—	—	—	—	—	—							—						—			—	—					—	—	—		—	—	—	—				—
Continued Fever ...	—	—	—	—	—	—	—				—	—	—		—			—	—		—	—			—		—	—	—	—	—	—	—	—	—	—			—	—
Puerperal Fever ...	9	—	—	—	—	1	3	5	—	—				—	2	—	—	—	1	—	1	2	2			1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plague ...	—	—	—	—	—	—	—							—	—	—	—	—	—	—	—	—		—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals ...	557	12	111	155	81	42	31	51	27	23	13	11	39	37	48	25	19	17	23	53	46	58	60	24	50	58	20	20	26	18	16	6	11	44	33	37	44	15	38	36

TABLE V.—APPENDIX.

CAUSES OF DEATH.	AGE. Years— 0–1		1–2		2–3		3–4		4–5		5–10		10–15		15–20		20–25		25–35		35–45		45–55		55–65		65–75		75–85		85 and Upwards.		Total Males	Total Females	Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Small Pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	2
Scarlet Fever	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Influenza	2	—	—	—	—	—	—	—	—	—	—	—	—	2	—	1	—	—	1		—	1	4	1	1	4	1	5	1	1	—	—	10	15	25
Whooping Cough	1	4	4	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	5	11
Diphtheria	—	—	—	—	—	1	—	—	1	1	—	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	2	3	5
Enteric Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	2	5
Diarrhœa	21	12	3	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—	—	1	1	—	—	27	17	44
Varicella	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Syphillis	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1	—	—	—	—	—	—	—	6	7	13
Erysipelas	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	2	—	1	1	1	1	—	6	4	10
Puerperal Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	3		—	—	—	—	—	—	—	—	—	—	—	—	4	4
Septicœmia	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Ulcerative Endocarditis	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1	2
Cellulitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1
Carbuncle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Rheumatic Fever	—	—	—	—	—	—	—	—	—	—	1	—	—	2	—	—	—	—	—	1	—		—	1	—	1	—	—	—	—	—	—	1	5	6
Brain Tuberculosis	3	3	3	2	2	3	1	3	—	1	1	2	1	—	—	—	—	—			1		1			—	—	—	—	—	—	—	13	14	27
Lung Tuberculosis	—	1	2	—	—	2	2	—	—	—	—	1	—	1	6	4	18	6	21	18	21	12	26	10	10	3	5	3	—	—	—	—	111	61	172
Alimentary Tuberculosis	—	3	1	1	3	—	—	1	—	1	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—			—				4	8	12
General and Undefined Tuberculosis	2	2	4	1	—	—	—	—	—	—	—	—	1	1	—	—		—	1	1	2	—	—	1	—		1	—	—	—	—	—	11	6	17
Other Forms of Tuberculosis	1	—	1	—	1	—	—	—	—	—	—	—	—	1	1	1	—	1	3	—	1	—	—	1	—	1			—	—	—	—	8	5	13
Alcoholism, Acute	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	1	—	—	2	1	3
,, Chronic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	1	2	—	—	—	—	—	—	—	—	3	3	6
Lead Poisoning. Chronic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—			—	1	—	—	—	—	—	1	—	1
Rheumatoid Arthritis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2			—	—	—	—	—		—	2	2
Gout	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	3	—	1	—	—		4	—	4
Cancer	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	2	1	12	10	19	20	22	18	26	8	13	2	5	59	100	159
Diabetes Mellitus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	4	—	3	1		1	—		9	2	11

TABLE V. *(continued)*.

CAUSES OF DEATH.	Age Years— 0–1		1–2		2–3		3–4		4–5		5–10		10–15		15–20		20–25		25–35		35–45		45–55		55–65		65–75		75–85		85 and Upwards		Total Males	Total Females	Total.
	M.	F.	M.	F.	M	F.	M.	F.	M.	F	M.	F.	M.	F.	M	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	M.	F	M.	F.	M.	F.			
Anæmia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	–	–	1	–	–	2	–	–	1	–	–	3	3	6
Lymphadenoma	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	3	–	3
Premature Birth	29	26	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	29	26	55
Debility at Birth	7	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7	4	11
Atelectasis	5	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	2	7
Congenital Defects	2	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	5	7
Want of Breast Milk	2	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	2	4
Atrophy, Debility, Marasmus	20	16	2	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	23	16	39
Dentition	1	–	2	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	1	4
Rickets	–	2	2	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	4	6
Old Age	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	1	8	14	30	33	12	31	52	79	131
Convulsions	8	2	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	9	4	13
Meningitis	2	3	–	–	1	1	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	5	8
Encephalitis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1	—	1
Apoplexy	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	3	4	1	7	1	3	–	1	7	15	22
Softening of Brain	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	1	1	–	1	–	–	3	2	5
Hemiplegia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	2	4	1	1	–	7	3	10
General Paralysis of Insane	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	—	1	1
Other forms of Insanity	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	1	1	2
Cerebral Tumour	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1	–	1	–	–	–	1	–	–	–	–	–	–	1	4	5
Epilepsy	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	2	–	–	–	–	–	–	1	–	–	1	–	–	–	1	–	5	2	7
Locomotor Ataxy	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	1	–	–	–	–	–	3	—	3
Diseases of Spinal Cord	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	2	–	1	3	2	2	–	–	5	6	11
Ill-defined Nervous Diseases	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1	–	1	–	2	1	–	1	3	1	2	5	4	3	1	–	15	11	26
Otitis, Otorrhœa	–	1	–	–	–	–	–	–	–	–	1	–	2	–	–	–	–	–	–	1	–	–	–	–	1	–	–	–	–	–	–	–	4	2	6
Diseases of Nose	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	—	1
Pericarditis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	—	1
Endocarditis, Valvular Diseases of Heart...	–	–	–	–	–	–	–	–	–	–	–	1	–	1	1	1	1	2	2	2	3	3	–	8	5	4	4	4	4	1	1	1	21	28	49
Aneurism	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	2	–	–	–	–	–	–	–	5	—	5

TABLE V. *(continued).*

CAUSES OF DEATH.	Age. Years— 0–1		1–2		2–3		3–4		4–5		5–10		10–15		15–20		20–25		25–35		35–45		45–55		55–65		65–75		75–85		85 and Upwards.		Total Males	Total Females	Total.
	M.	F.	M.	F	M.	F.	M.	F.	M.	F	M.	F.	M.	F	M.	F.	M.	F	M.	F.	M	F	M.	F.	M.	F.	M.	F	M.	F.	M.	F.			
Senile Gangrene	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	2	1	3
Embolism Thrombosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	1	—	—	1	2	3	5
Other Circulatory Diseases	—	—	—	—	—	—	1	1	—	—	—	1	1	2	—	1	—	—	2	—	4	3	9	13	13	13	20	21	12	31	3	4	65	90	155
Laryngitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1		1
Bronchitis, Acute	9	8	1	3	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1	2	—	—	2	2	—	4	2	3	17	24	41
Bronchitis, Chronic...	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	2	7	12	9	13	17	12	3	5	39	45	84
Pneumonia, Lobar	—	—	2	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	2	—	—	—	—	—	1	—	—	—	—	—	5	1	6
Pneumonia, Lobular	10	7	2	3	1	—	1	1	—	—	1	—	—	—	—	1	1	—	—	—	—	—	2	1	5	—	1	1	2	1	—	—	26	15	41
Pneumonia	4	5	2	3	—	—	—	—	—	1	—	—	—	—	1	—	1	—	3	3	—	2	3	1	4	3	8	5	4	5	—	—	30	28	58
Pleurisy	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	2	2	4
Other Respiratory Diseases ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	1	1	—	3	—	1	—	—	2	6	8
Diseases of Œsophagus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1		1
Diseases of Stomach	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	1	—	1	1	—	—	—	7	2	9
Ulcer of Stomach	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1	2	—	2	1	—	1	—	—	—	—	—	—	6	3	9
Enteritis	8	10	2	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1	—	12	14	26
Appendicitis...	—	—	—	—	—	—	—	—	—	—	1	3	—	—	—	—	1	—	—	1	—	—	—	—	—	1	—	1	—	—	—	—	2	6	8
Obstruction of Intestine	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1	—	—	2	3	2	3	—	—	8	8	16
Other Diseases of Intestine ...	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1	2
Cirrhosis of Liver	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	2	5	3	2	2	3	1	—	—	—	11	10	21
Other Diseases of Liver	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	3	—	2	1	2	2	1	3	—	1	—	8	8	16
Peritonitis	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	3	2	5
Other Diseases of Digestive System ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	1	—	—	—	3	—	3
Diseases of Lymphatic System ...	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	1	2
Nephritis	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	—	1	1	—	1	—	—	1	—	—	—	4	3	7
Bright's Disease	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	1	—	1	—	4	3	3	3	6	2	4	3	4	—	—	—	23	17	40
Diseases of Bladder and Prostate...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	2	—	3	—	—	1	6	1	7
Other Diseases of Urinary System ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	1	—	1	—	—	—	—	—	4	4
Diseases of Ovaries...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1
Diseases of Uterus and Appendages ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	1	—	—	—	3	3

TABLE V. *(continued).*

CAUSES OF DEATH.	Age. Years— 0–1		1–2		2–3		3–4		4–5		5–10		10–15		15–20		20–25		25–35		35–45		45–55		55–65		65–75		75–85		85 and Upwards		Total Males	Total Females	Total.
	M.	F.	M	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F.	M.	F	M.	F.	M.	F.	M.	F	M.	F.	M.	F.	M.	F.	M.	F.	M.	F			
Other Diseases of Pregnancy and Child Birth																				1		1											—	2	2
Arthritis																	1		1								1			1			3	1	4
Other Diseases of Osseous System ...																				1							1						1	1	2
Diseases of Integumentary System ...																											1						1		1
Accidental—																																			
In Vehicular Traffic			1																						1					1			2	1	3
On Railways																	1		1				1										3	—	3
Burns and Scalds	1	1			1																												2	1	3
Poisons																					1							1					1	1	2
Drowning																			1	1	1				1								3	1	4
Suffocation, overlaid in bed ...	6	5																															6	5	11
Suffocation, otherwise	4	1																															4	1	5
Falls	1	1		1							1	1					2				2		2		1			1					9	4	13
Otherwise and not stated		1		1															1														1	2	3
Homicide		1																				1												2	2
Suicide—																																			
By poison																									1		1						2		2
By Hanging																				1	1	1	1		1								3	2	5
By Drowning																				1			2										2	1	3
By Cut or Stab	1																						1										2		2
Other Ill-defined and not Specified Causes			1																						1	1	1						3	1	4
	163	134	37	26	14	10	9	10	1	4	10	13	6	10	12	14	34	12	41	40	66	51	87	86	117	87	113	137	111	134	31	53	852	821	1673